

JUN 9 1943

'It's Important to Know In Time'

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The Newspaper of the Industry**Inside Dope**

By George F. Taubeneck

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A Hero Returns

Careful readers of the NEWS may have noticed an ever-growing section of our masthead (on the editorial page) headed: "On leave of absence to serve our country."

That list now comprises almost our entire pre-war staff. We are now attempting to do business at the old stand with a harried handful of 4-F's, 4-H's, and intelligent young women. No other firm of any variety that we've heard of has contributed so large a percentage of its employees to the armed forces.

And now the first one to go, Dick Neumann, is back on furlough, a wounded hero from New Guinea. As a line sergeant of a machine gun company, he led charges that ended in the taking of S. nanda. Just 20 days before MacArthur's forces finally won the New Guinea campaign, an invisible Jap sniper drilled Dick through his right elbow while he was leading his company from a foxhole to cover in the brush.

Front Page Glory

Dick was a modest, sturdy competent young man when he left us just two years ago. He had begun as an apprentice printer, and had risen to the managership of our mailing department. When he left it was simply for "a year's training." The thought that he might get to know Australia well never entered his mind, nor did he dream that he would be pictured and storied all over the front pages of Detroit papers.

Yet that's just what happened. His story and picture were splashed all over the front pages Sunday.

Dick met many fine people in Australia—he loves that land—but unfortunately never had opportunity to look up any of our subscribers down there, although he was equipped with a list of them.

Silent Japs

Everybody has heard how the Jap snipers in New Guinea tied themselves up in the foliage of trees, where they were well-nigh invisible. Dick adds the information that their guns seemed to be equipped with silencers, because they never heard Jap sniper's guns go off. Didn't know that had been shot at until the bullets (which were explosive) hit.

At the time Dick was hit, he was carrying a Tommy-gun in the crook of his arm. The bullet went through his elbow and into the Tommy gun, where it exploded. He was soon "retrieved" by a medical corps aid who turned out to be an old friend from Michigan, an unexpected coincidence if there ever was one.

The Aussies fought alongside the Americans in that campaign, and Dick says they are the greatest fighters he ever saw. Foolhardy and reckless, absolutely fearless, the Australians scorned ordinary caution and suffered far greater casualties than they needed to; but their fighting spirit swept all before them, and the Americans with them.

"I'm glad they were fighting with us, and not against us," avers Dick. And the Australian people, he emphasizes, are just as hospitable and friendly as their soldiers are tough and irresistible.

"I expected the New Guinea jungle

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Air Conditioning & REFRIGERATION

Production Tools for Victory

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'Written by the
Read on Arrival'

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T. K. Quinn Replies

Author of 'Liberty, Employment and No More Wars' Nails Editor's Hide to the Barn Door

June 1, 1943

Mr. George F. Taubeneck, President
Business News Publishing Co.
5229 Cass Ave., Detroit, Mich.

Dear George:

It is delightfully refreshing and stirs up happy memories to be engaged again in correspondence with old friends even when we seem to disagree. I welcome your letter reviewing my book and thank you for it.

You and I have many emotions in common. Among them faith in people and their essential goodness and equality. We begin, at least, with not only wanting and hoping for a better country and a better world but with the confidence that these objectives can be reached. We would agree, I suppose, with whoever it was who wrote long ago that it is better to break your heart than to do nothing with it.

I gladly join you in any fun you can stimulate over the title "Liberty, Employment and No More Wars." It is, I believe, so sound and vital that it can well afford and easily withstand any kind of treatment. "Home, Mother, and Flag" is pretty good too, but I must leave that for your Don Quixote championship of the little business man who turns out not too surprisingly at the end of your story to be you.

It is easy as you infer to superficially oppose effects such as Crime and Corruption. That's why I persist throughout the book in pointing to the causes that bring unhappy results. I never read one of Westbrook Pegler's admirable columns attacking trade union gangsterism, for example, without wondering why he appears so content to deal only with effects. As long as we concentrate exclusively on effects instead of their basic causes, we shall continue to cry out in vain against the results which must follow inevitably as night follows day. This is stark, glaring realism and the very opposite of the political Pollyanna of which you accuse me. If the world were one-tenth as concerned over the causes of wars as it is with wars, mankind would long since have outlawed them. The two basic causes are slavery and poverty. Men, the world over, strike and fight for freedom, for food, a livelihood and the kind of fair treatment that is inseparable from these ends. So the words of my title, "Liberty, Employment and No More Wars" are related and epitomize, I think, our essential objectives.

The question of "big" business versus "little" business seems to interest you most. I regret that you have seen fit to ignore entirely a most important chapter, "There Shall Be No Unemployed." All business should be a means toward an end and not an end in itself. I confess that my principal interest is in the man who being able and in need of work can find no gainful work to do. I saw thousands in this predicament after the last war and knew there were millions of others. Beside all other social injustices this one looms most diabolical and intolerable. It impoverishes and degrades. Unless this problem can be solved all of the others seem to me to be academic. Let me put it as strong as I can. If I thought that the capitalistic system, in which I believe, could not solve this problem of free employment satisfactorily and that the socialistic or communistic system could solve it and preserve freedom, then I would be a socialist or a communist. For one, I am unwilling to live in silence and contentment if we must again face the prospect of millions of the men who are fighting for us selling apples on the street and going hungry and unemployed. I am willing to sacrifice as much of our individualistic, free enterprise system or anything save freedom and self respect, as may be necessary to assure employment among all employables; not just you and me. The proposals I make and to which you take exception are all made to provide employment, secure liberty and avoid future wars. Even offensive monopoly which seems to trouble you most is acceptable to me if necessary to assure employment, provided it is controlled in the public interest. The degree of centralization I am willing to accept is a concession to employment. The condemnation of unrestricted competition is based upon this same purpose—employment. Above everything else, I would face the absolute need for employment and do it with imagination and a disposition to accept whatever forms or methods are necessary to provide it. I would, in effect, amend our Declaration to read "Life, Liberty, the Pursuit of Happiness" and Employment.

The book is not intended as an approval or indorsement of the inexorable sweep toward the centralization of power and authority. I simply attempt to present the facts. When they are clearly understood, we shall have a better chance of avoiding that most dreaded ultimate—complete governmental control and deadly political bureaucracy, toward which we are now so rapidly moving and were before the war. I am reminded again of what a doctor once told me when I expressed slightly belligerent surprise and mistrust (as you do) over his analysis of a peculiar ailment. "See here," he said, "I didn't make the world you know; I'm simply telling you how it is."

The statement on page 131, that "thousands of small dealers

(Concluded on Page 2, Column 1)

ASRE Hears How Industry Has Bettered Relations In Washington

WPB Setup on Refrigeration Now Termed 'Stable'

CLEVELAND—Listening approvingly to technical discussions of how refrigeration is helping to win the war on both the fighting and production fronts, and to a report from Washington which indicates that the industry is finally getting a good hearing before the government agencies, the largest group (421 registrants) ever to attend a spring meeting of the American Society of Refrigerating Engineers overflowed the meeting room of the Statler hotel here in a three-day session last week.

More complete reports of the technical sessions will follow

Pierce & Armstrong Resign Positions At Nash Kelvinator; Wibel Joins Firm

DETROIT, June 5—Frank R. Pierce and W. F. Armstrong, vice presidents of Nash Kelvinator Corp., have resigned, it was announced today by George W. Mason, president.

It was also announced by Mr. Mason that A. M. Wibel, who resigned recently as vice president and director of the Ford Motor Co., has been elected a vice president of Nash Kelvinator. He assumes his new duties at once.

It is understood that Mr. Pierce and Mr. Armstrong had resigned before Mr. Wibel was named to the post of vice president.

Mr. Pierce has been in charge of all sales for the corporation. Both he and Mr. Armstrong had long records of service in the refrigeration industry, both of them having been vice presidents of Frigidaire before joining Nash Kelvinator.

They joined Nash Kelvinator in 1939 and inaugurated sales policies which trebled the household refrigerator sales volume of the corpora-

(Concluded on Page 28, Column 5)

'Freon' Quotas For June Cut; Reasons Given

WASHINGTON, D. C.—Curtailement "of a temporary nature" of the June was announced on the first of the month by the Refrigeration & Air Conditioning Section of the WPB.

Said the WPB announcement: "Requirements of armed services for conduct of the war have made necessary the curtailment of a temporary nature in the 'Freon' allocation for June.

"Freon" has not been allocated for comfort cooling installations or repair or for installation of new equipment in the field.

"We request that you ration your

(Concluded on Page 28, Column 1)

Mattes, Haight Promoted By Universal Cooler

MARION, Ohio—Promotion of A. J. Mattes to the position of service manager and E. G. Haight to assistant sales manager of Universal Cooler Corp. was announced last week by F. S. McNeal, president.

"Red" Haight has been with Universal Cooler eight years and in his new capacity will continue to work closely with A. E. Cadwell, sales manager. Before joining Universal

(Concluded on Page 28, Column 4)

in a later issue, but the "news" at the meeting came in the talk "Refrigeration, the War Production Board, and Advisory Committees," by Marshall Munce, special assistant to the president of York Ice Machinery Corp., and a member of the General Refrigeration Industry Advisory Committee.

Mr. Munce added to his talk some late information on the government orders affecting the industry, and brought out these points:

1. Order P-126 will continue in operation (as indicated in the May 24 issue of the NEWS) although there are those who think it should be revoked because they think it is in conflict with CMP Regulation No. 5. Big argument for it is that without P-126, servicemen and dealers could not order parts to be placed in inventory. Further, the ratings in CMP 5 are not as good as those in P-126.

2. The Legal Division of WPB is questioning the legality of the licensing provisions of P-126, but no immediate decision is probable.

3. There is not likely to be any further major amending of Order L-38 in the near future, but it is possible that both L-38 and P-126 will undergo another general overhauling before the summer is out.

4. Limitation Order L-126 which sets forth specifications of refrigeration equipment may be amended this month, following recommendations of the Condensing Unit Advisory Committee.

5. The present WPB setup, particularly of that section which governs the refrigeration industry, now seems pretty well set.

Said Mr. Munce in his formal address to the A.S.R.E. convention:

"Time will obviously not permit this and, therefore, it is my purpose to touch on a few high spots and at the same time to bring you a series of messages from Sterling F. Smith, Chief of the Refrigeration & Air Conditioning Section of the General Industrial Equipment Division, whom most of you know. Mr. Smith had hoped to be able to be present and asked me to say to you that he indeed regrets he cannot attend this meeting and appear before you.

"The remarks that I have to make are from the viewpoint of the man from the industry whose assignments by his company bring him closely in touch with WPB in Washington, including serving on Industry Advisory Committees.

"In speaking of the industry I am referring to the whole industry with the exception of mechanical household refrigerators and household ice refrigerators. My reason for excluding these is that WPB puts these two items in a separate category under a different set-up, and they are, therefore, subject to different regulations, the details of which are not very well known to me.

"Our industry, as you well know, has a very broad scope, including anything from a small self-contained unit to the very largest units, or put another way from a fractional horsepower unit to large units requiring prime movers of 1,500 hp. It includes commercial fixture manufacturers and parts and accessory manufacturers, as well as manufacturers of

(Concluded on Page 4, Column 1)

T. K. Quinn Discusses Competition and Small Business Vs. Big Business

(Concluded from Page 1, Column 2)

cannot come back and with their passing will go hundreds of jobbers who served them" may constitute "fighting words" to you. But I see nothing to be gained by denying them. To anyone so disposed, I recommend a study of the thousands of outlet increases now being blueprinted by the big and growing, old and new, chains. They were going ahead by leaps and bounds before the war and their further development is inevitable. Just before the war new giants appeared: Firestone, Goodyear, Goodrich, etc., etc., and there is a new combat in sight between them and the older chains. Woolworth's for instance, may have once meant 5 cent and 10 cent to you and me but it won't always be limited to these penny sales. There are other significant developments.

Your reference to the price ceilings set by OPA is right down the alley of my argument. To limit and publish, as was done, prices of 50 cents a pound on certain beef by the large chain stores, and at the same time permit the small dealer to charge 52 cents for the same meat calls striking attention to the very point I am making; the large operators can do business at lower costs than the small ones and the Government officially and openly recognizes it. Moreover, the large chain operator returns more profit per sales dollar to owners than the small dealer.

These facts automatically spell the slow passing of the small independent store. Your quarrel on this score is with economic law and not with me. We have come to the point where competition and free enterprise cannot exist without some kind of regulation.

The very essence and meaning of competition is the success of the big and strong over the small and weak. The more competition is left to its natural evolution, unregulated and unrestricted, the faster small business will be eliminated. Laws which encourage competition simply accelerate the passing of small business. That, I submit, is precisely what has happened in America and in the world particularly since the turn of the century. One way out for the little fellow is to associate or combine with others as factory workers are doing in trade unions and smaller businesses have done in huge corporations.

If, as you so excitingly put it, I "fell into the swift Niagara River above the falls," I would indeed struggle, as you say, but I would nevertheless go over the brink—assuming that the current is as strong as the present economic and political trend toward centralization. I am interested in some plan and action that will keep us from falling further into the swift current and not so much in any hopeless struggle. That's one reason why I propose an "Economic

Senate."

The men responsible for our American form of government and our Constitution: Jefferson, Burke, Madison, Hamilton, etc., all knew and stated that any one power will become a tyrannical power unless it is checked, controlled and balanced by a competing power. Unfortunately they could not foresee the present industrial era. Hitler and Mussolini and the Jap war lords are the result of extreme centralization of authority.

The "Economic Senate" I propose would have delegated to it limited powers over its members as is the case in the political sphere. We would then have two, separate authorities instead of one and we would not have politicians trying to run business organizations without the requisite training or ability. The "Economic Senate" would be entirely democratic, self-regulating and certainly not monopolistic. You will find on page 116 a statement of what seems to me to be the right spirit of approach. I do not favor monopoly or absolute control or authority in any one public group or organization or individual and certainly not in any private one. The "self perpetuation" which you quote from page 179, refers to the abstract economic form of Government and not to ruling cliques or individuals with vested interests, as you interpret it.

What I really think and have to say about centralization, on more

than one page, is that this new co-operative age requires a degree of centralization of authority to provide employment and maintain the national income. The problem is to keep it balanced and in check. Minimum necessary centralization and maximum decentralization should be the rule and in separately established spheres of politics and economics. I do not say that "centralization is okay if business men do it," not if it's extreme centralization.

I do not defend monopoly "on page 147" or anywhere else. I do undertake to show that lower costs could actually be attained through even further combinations. Whether ideas are accepted on any level does not depend so much upon competition as upon management and control. If any one company had all the business in any line there might be greater danger of stagnation, as you suggest, provided no other authority such as an economic senate or court or public interest were involved.

For the purpose of your point on capital abuse your example is an unfortunate one. The General Electric Company was producing refrigerating machinery before any of the companies you mention—and they were all sealed machines. Moreover, that company did not go out of its logical, natural field. It is a manufacturer of all kinds of electrical equipment. It did not go into water ice refrigeration or dry ice refrigeration or gas refrigeration. Finally, it did not cut prices but raised them because the cost of the sealed unit at that time was higher. Competitive conditions were decidedly improved by its conduct.

I would not argue against the DuPont Company (having discovered Nylon) going into competition with the Japs. What I do oppose (and it is one of the worst and potentially most threatening dangers in American business) is using the advantage of huge capital structures to force others out of business by cutting prices on selected choice lines with the blessing of our anti-trust laws. There is nothing in our present law to prevent a dozen, billion-dollar gross asset companies from wiping out hundreds of other companies particularly in unrelated lines of business and doing it at an immediate loss to themselves. As a champion of small business and fair dealing you should be deeply concerned over this situation. It is likely to become very serious after the war when big aircraft and munitions manufacturers are looking for new businesses.

I am afraid we cannot hereafter expect comparatively many inventions from individuals working alone or in very small companies without the benefit of modern research scientific laboratories. Increasingly, patents are being issued to the employees of large companies as the records show. The conditions are changing so rapidly that the outstanding men you name, who started half a century ago, can hardly be used to refute today's facts.

The opportunities for small businesses continue to diminish. The mortality rate among them is now and has been staggering. On page 109 you will find the following quotation from the reports of the Temporary National Economic Committee, "the chance of a newcomer becoming an established member of the business community is sadly slight. He carries on until his funds are exhausted and then disappears from the scene. His place is taken by another hopeful." This is not the way you and I and others may like to have it but it is the actual condition nevertheless.

Now for a few closing words concerning your own experience and the AIR CONDITIONING & REFRIGERATION NEWS. In my discussion of the manufacture and distribution of goods and things, I do not necessarily include the sale or publication of news or ideas. Yours is a somewhat different field and although many of the principles presented apply, it is difficult to think of publication or educational service in the same terms. If you raised your subscription rate from \$4.00 to \$10.00 a year, I would still be a subscriber. So would many others. The industry that you so adequately represent is familiar to me, and many of the names of the people appearing from week to week are old friends. Similarly, I have not cancelled my subscription to the Atlantic Monthly, Reader's Digest, Free World, or Vogue (which also comes to the house) simply because I can buy the Post, Look, Life or Colliers for a dime. Special questions of interest, taste and necessity are here involved and the whole problem is

different. I have not intended to say anywhere that all small business is doomed but only to point to the alarming rate of its passing. And I have done so for reasons of sentiment and personal preference quite like those which roused you to its defense. What to do about it and how are the real questions. I present my own ideas and proposed solutions in the book.

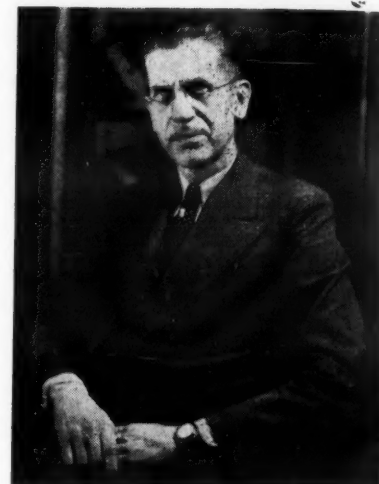
Finally, with respect to you personally, and the matter of opportunity for advancement in big business, I have no doubt that you could eventually become head of almost any one of the large publishing companies were you associated with it.

With cordial best wishes,

Sincerely,

T. K. QUINN

Hart Named Executive Officer of McCray



JOHN W. HART

KENDALLVILLE, Ind. — John W. Hart has been elected executive vice president of the McCray Refrigerator Co., succeeding Paul W. Miller, who has been elected chairman of the board of directors of the company.

Mr. Hart, formerly served as vice president and treasurer, will continue his duties as financial officer of the company.

Mr. Miller, the new chairman of the board, is also vice president and treasurer of the Atlantic Steel Co., Atlanta, Ga., and was recently elected president of the National Association of Credit Men.

In assuming the active management of the company Mr. Hart stated that an "open door" policy would continue to be the guiding principle of the entire organization, and that the business would continue to operate as a democracy as laid down years ago by the founder.

AA-4 Rating in L-38 Changed to AA-5

WASHINGTON, D. C. — General Limitation Order L-38, as Amended May 20, 1943, on May 28 was further amended, by changing "AA-4" appearing in paragraphs (b) (1) (i) (a) and (b) (1) (ii) to "AA-5."

The change was made, it was explained, to bring L-38 in line with the minimum preference ratings for repair and maintenance parts established by CMP Regulation No. 5

SALES PLANNING

RESEARCH PROBLEMS

MANAGEMENT PLANNING

DESIGN PROBLEMS

"Let's Ask Universal Cooler..."

How to Make Refrigerating Units Contribute the Maximum to Postwar Production Plans

Keep informed—changes are being made! For example, Universal Cooler is constantly introducing design, production and performance innovations in refrigerating units. These developments forecast major advancements in post-Victory refrigeration, air-conditioning and cooling equipment.

Even now, Universal Cooler's war-gear-ed research-engineering department, with its background

of nearly a quarter century of refrigeration experience, is translating new construction ruggedness, production line efficiencies and refrigerating refinements into terms of peacetime advantages for you. In your postwar planning, suggest to your associates: "Let's ask Universal Cooler about dependable, economical refrigerating units." Send your specific problems today!

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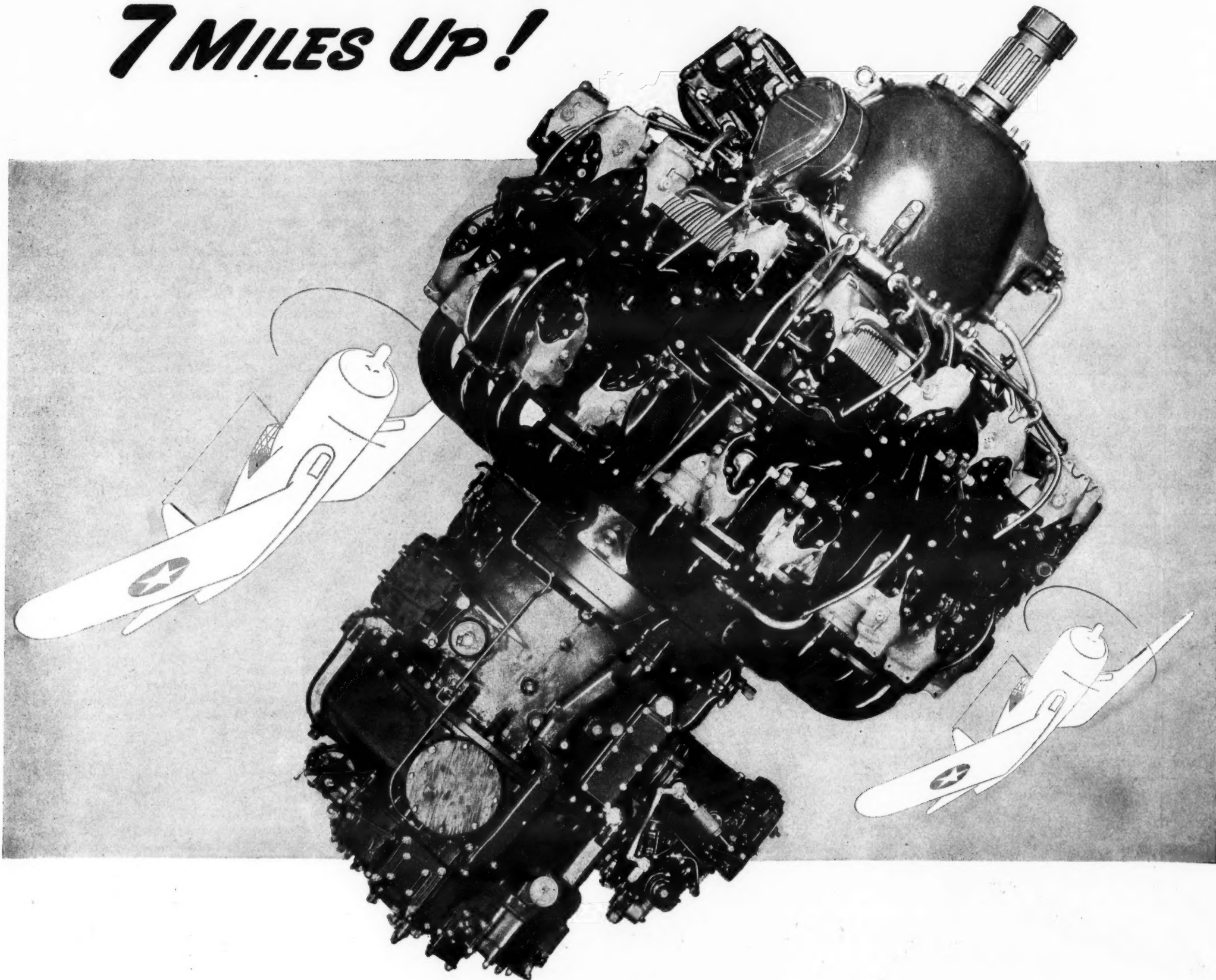
for All War Needs

Wagner Electric Corporation

Send For Bulletin MU-182 and MU-183. They contain valuable motor information.

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WHAT you see before you is one of the world's mightiest naval aircraft engines—built by Nash-Kelvinator!

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Already in combat with the enemy's Zeros . . . the Japs' best . . . the Corsair has proved its superiority—its ability to outfly, outclimb and outfight all competition! For it is capable of a speed of nearly seven

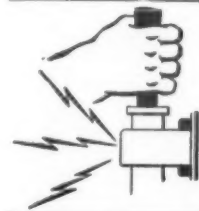
miles a minute in level flight! It can fight at altitudes over seven miles above sea level! And that gives it the "drop" on Axis pilots, as they are learning to their everlasting sorrow!

One of the miracles of this engineering and manufacturing masterpiece is that . . . with all its more than 10,000 separate parts . . . its high-altitude supercharger . . . its 2,000 horsepower . . . it weighs only slightly over 2,400 lbs.!

This is one of Nash-Kelvinator's wartime tasks. We are proud that our tradition of precision workmanship can be depended

upon on the battlefronts of the air, as it is in the homes of America.

Noteworthy is the fact that the Kelvinator Polarsphere Sealed Unit—which we believe to be the most trouble-free unit in the industry—has for years been built to the same exacting standards now employed in building the 2,000 horsepower engines for the Navy's Corsair!

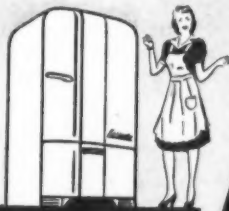


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Put Vitrally-Needed Scrap Back
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[KEEP 'EM FLYING! BUY MORE WAR SAVINGS BONDS AND STAMPS!]

LOOK AHEAD WITH



KELVINATOR

DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT, MICHIGAN

Industry Advisory Committees Now Given Hearing, ASRE Told

(Concluded from Page 1, Column 5)
condensing units and compressors. This broad scope must be borne in mind in connection with the several orders that have been drawn up and issued particularly for our industry. These orders are often complicated for the reason that they must cover such a broad front.

"We do not believe that it is generally appreciated how extensive and important a part refrigeration is playing in the total war effort, and in this Mr. Sterling Smith agrees with me. In fact, he has asked me to say to you that he is sure that the importance of the industry is not appreciated and that the industry is entirely too modest and should publicize to a much greater extent the many new developments in and accomplishments of refrigeration in helping to win the War.

"From another viewpoint the industry includes approximately 400 manufacturers and 10,000 distributors, dealers, and independent service men who, prior to the War, did an estimated business of one billion dollars per annum and today are doing an estimated business approximately half that amount, including that done by manufacturers, estimated at two hundred million dollars per year. These estimated figures do not include household mechanical refrigerators, nor household ice refrigerators, the business done by the ice manufacturing industry, or the business done by the cold storage industry.

"The War Production Board is for-

ever changing, and this applies both to personnel and to organization or set-up. Just as the Armed Forces must modify their strategy in accordance with developments and experience gained from campaign after campaign, and must accordingly change their requirements for materials and implements of War, so the WPB must also change to meet this situation and to insure materials and equipment required for the Armed Services.

"On the other hand, we believe it is only fair to state that the present set-up of the WPB seems, at least to us, to be fairly stable, and this is particularly true insofar as that portion of the WPB directly affecting the refrigeration industry.

Where the Section Sits

"This industry's principal interest in the WPB centers in the General Industrial Equipment Division and the Refrigeration and Air Conditioning Section of that Division. The Refrigeration and Air Conditioning Section is one of four Sections which in turn constitute the Special Equipment Branch of the General Industrial Equipment Division, one of the nine Branches of one of the 12 Industry Divisions and Bureaus reporting to the Operations Vice Chairman, Donald E. Davis. In other words, there are five echelons in the War Production Board above Sterling Smith.

"Although it would seem we are quite far down the line, many other

important and recognized industries are in exactly the same relative status. It may be said, therefore, that we are in good company and if we are not getting the attention and consideration our industry deserves, it is probably because we have not impressed the higher echelons with the importance of our industry in the War Effort.

"To all practical purposes the refrigeration industry must, in day to day problems, depend almost entirely on the Refrigeration and Air Conditioning Section. This Section is organized basically and exclusively for our industry. It is responsible for our industry, and our industry in turn is responsible to this Section.

"It would require pages to list all of the duties of the Refrigeration and Air Conditioning Section in detail as laid down by WPB regulations. Suffice it is to say that the prime duties of the Section are to limit the use of available material to essential applications, to provide the mechanics for securing materials for such applications, and to administer the Limitation and Preference Rating Orders written and designed for the regulation of our industry.

"The Refrigeration and Air Conditioning Section is composed of eight Operating Units and the Office of the Chief. I will not go into the details of these units, except to mention them. They are as follows:

"1. Accessory Unit headed by Leo J. Freitas.

"2. Commercial Refrigerator Unit headed by Howard Forman.

"3. Emergency Service Unit headed by R. H. Tait, who is also Deputy Chief of the Section.

"4. Industrial Air Conditioning Unit headed by M. C. Terry.

"5. Industrial & Commercial Refrig-

eration Machinery headed by A. H. Keeler.

"6. Unitary Equipment Unit headed by Bert Meyer.

"7. Material Allocations Unit headed by Gorton Wootton.

"8. Staff Unit, including Frank Millham, Administer of L-126, and William Smylie.

"I refer you to Sterling Smith's address to the National Refrigeration Supply Jobbers Association at their meeting in Chicago for the full background of each of the above men. I would like to state, and I quote from Sterling Smith, that 'every man in a supervisory capacity in the Section, or who has anything to do with passing on priority applications of any kind, is an industry man of at least 10 years' experience.'

"This is the group to whom we must take our problems and to whom we must look for consideration of those problems in a fair and equitable manner. Since all of them are men taken from the industry as I have already said and with a minimum of 10 years' experience with the industry, I agree with Mr. Smith when he said and I again quote 'they can understand your problems if you make yourself clear.'

All Worked in the Industry

"One thing more in which I feel the industry is fortunate is Sterling Smith's immediate superior, the Chief of the Special Equipment Branch, is Fred Smith, who is also from the industry, having served many years with Frigidaire in New England and who, because of this, is, in our opinion, particularly interested in the problems of our industry.

"I personally know all of these men and I can say without qualification that they all are trying very sincerely to do the best job they know how to do. They all have an open mind and attentive ears. If they have, in your opinion, arrived at erroneous conclusions, it is because the industry has not properly and fairly presented their case.

"In addition to having the counsel and advice of his immediate superior, and his immediate subordinate, all of whom are from the industry, Sterling Smith established and appointed eight Advisory Committees. An organization chart of these committees was published in the May issue of 'Refrigerating Engineering.'

The 8 Committees

"They are as follows:

"1. General Refrigeration and Air Conditioning Industry Advisory Committee.

"2. Commercial Refrigerator Industry Advisory Committee.

"3. Water Cooler Industry Advisory Committee.

"4. Condensing Unit Advisory Committee.

"5. Refrigeration Valve and Fittings Manufacturers Industry Advisory Committee.

"6. Finned Coil and Cooler Manufacturers Industry Advisory Committee.

"7. Industrial Refrigeration Industry Advisory Committee.

"8. Refrigeration Wrought Copper Solder Type Fittings Industry Advisory Committee.

"All of these committees are in fact appointed by Sterling Smith, but only after the approval of the Director of Industry Advisory Committees, who prescribes that they must represent a true cross section of the industry or segment of the industry, both as to size of company and geogra-

phical location. For example, an analysis of the General Refrigeration and Air Conditioning Industry Advisory Committee is composed of men taken from the following segments of the industry.

"1. One representative from the Commercial Refrigerator segment of the industry.

"2. One representative from the Finned Coil segment of the industry.

"3. One representative from the Soda Fountain segment of the industry.

"4. One representative from the Valve and Fitting segment of the industry.

"5. One representative from the Water Cooler segment of the industry.

"6. One representative from the Self-Contained Fixture segment of the industry.

"7. One representative from the Small Condensing Unit segment of the industry.

"8. One representative from the Medium Size Condensing Unit segment of the industry.

"9. One representative from the Heavy Industrial Air Conditioning segment of the industry.

"10. One representative from the Heavy Industrial Refrigeration segment of the industry.

"Similarly, and approached from a different viewpoint, an analysis reveals that these representatives have been chosen from as far east as Greater New York to as far west as California and from near the Canadian border to as far south as there are any manufacturers in our industry. We are emphasizing the make-up of the General Refrigeration and Air Conditioning Industry Advisory Committee because Sterling Smith has termed it 'the Board of Directors of the Industry.'

How Main Committee Works

"This committee meets in Washington once each month, at which meetings constructive criticisms and suggestions are presented by the committee to Mr. Smith, and in turn Mr. Smith solicits advice and counsel of the committee in regard to problems he is facing. Meetings of the other Advisory Committees are held as, if, and when occasion or problems demand such meetings, but the General Committee meets regularly once each month and is truly a working committee.

"We have taken the time to review the organization and set-up in WPB which affects our industry in order to give you the proper background for the real message which it is my purpose to convey to you today.

"The attitude toward industry and Industry Advisory Committees has changed materially during the past 12 months. As late as a year ago industry was told by WPB what they were going to have to do and seldom was industry given an opportunity to offer their advice and suggestions. Limitation Orders were written which were more than severe—they were drastic, and after they were issued industry groups were called together and the orders explained.

"Today the situation is quite different. WPB seeks the advice of industry prior to issuing a Limitation Order and inquires of industry what should be done in order to accomplish the desired result. Bureaucracy in Washington has not vanished from the picture, but such bureaucracy as remains has come to the realization that industry knows best and only

(Concluded on Page 5, Column 1)



Guarding the Health

OF OUR ARMED FORCES ON LAND AND SEA!

Mueller Brass Co. packless line valves and tripl-seal diaphragm line valves are in use with our armed forces on practically every front. Just as refrigeration is vital to our men in service in the preservation of food and serums, so too these valves are essential to insure uninterrupted service of the refrigerating unit should it become necessary to make repairs or alterations.

Mueller Brass Co. PACKLESS LINE VALVES are of exceptionally sturdy construction and will successfully withstand severe usage in service. The valve body and integral mounting plate are forged brass. The bellows has a safety factor much in excess of anything required of it in service. The cap is reinforced to compensate for the continual upward thrust of stem and spring. A rubber cap covering the bellows affords positive protection against moisture.

The openings of these valves are full flow, having less restriction than two elbows of a corresponding size. These valves are packed in heavy, individual cartons to assure protection in shipping and stocking.

Furnished in all types and sizes from 1/4" to 1 1/2" inclusive.

Our TRIPL-SEAL DIAPHRAGM VALVES are constructed upon a new and revolutionary principle involving a minimum of movement. The greatly increased multiple diaphragm is never deflected past its normal center; thus giving it much greater service life. It provides positive sealing at three essential points. The valve has positive and easy closing provided by a single turn of the hand wheel.

Body and cap are of seepless forged brass; maximum mounting strength is provided.

Valves are furnished in two way and angle type —flared or solder type ends, and a complete range of all necessary sizes.

MUELLER BRASS CO.
PORT HURON, MICH.

"CRISPY COLD" VEGATOR

—REGISTERED U. S. PATENT OFFICE—
WITH DEW MIST CONTROL



Eventually—The Produce Equipment For Every Merchant
Be Exclusive—Sell CRISPY COLD
Says—"STOP—Peeling Away Profits"
CRISPY COLD Free Merchandising Plan
Says—"BUY—With New Selling Appeal"
Customers—See—Feel—Taste the Difference

VIKING REFRIGERATORS Inc. KANSAS CITY, MO.

WPB Orders Will Continue To Be Revised, But Industry Has More To Say on Changes

(Concluded from Page 4, Column 5)

through cooperation with the industry can the desired overall result be obtained.

"This is particularly true in the case of our own industry. Those of you who attended the first Industry Advisory Committee meeting which was called by Leon Henderson and presided over by Joe Weiner probably recall only too vividly the cold-blooded expressions that were used by the men representing government at these meetings. We were not asked what should be done. We were told what it was going to be necessary to do by men who perfectly obviously knew nothing about our industry.

"A number of Industry Meetings have occurred since that memorable time and most of them were termed, although incorrectly, 'Industry Advisory Committee Meetings.' In the early days these meetings were far from Advisory Meetings; they were in reality Proclamation Meetings with government officials proclaiming what was to be done or was already in effect without revealing what was prompting such severe measures or their thinking in regard to the desired accomplishment.

"Gradually, however, the feeling changed and today I am delighted to be able to report to you that, at least in my opinion, Industry Advisory Committee Meetings are truly Advisory Meetings.

Seeks Publicity for Minutes

"I have already referred to the General Advisory Committee and its meetings. I can assure you that the meetings of this committee are working meetings. The committee pulls no punches, not hesitating for one moment to offer constructive criticism, to make suggestions, to present problems, and to insist on action or reasonable explanation why action cannot be taken in accordance with its recommendations.

"Unfortunately, WPB to date has not permitted any publicity of the Official Minutes of these meetings. I am in hopes that this will shortly be changed because I would like very much for the whole industry to know how the 10 members of the General Committee are every month working and fighting for the good of the industry. These 10 men feel their responsibility very keenly and it is their sincere desire to truly represent the opinion of the industry.

"On several occasions I have heard members of the committee present and defend the opinion of certain members of the industry although I knew that the individual himself who was thus arguing was not sold himself on the opinion he was presenting. They feel that they should do this and must do it if they are to truly represent the opinion of the industry, and I am sure they will continue to do so whenever a segment of the industry conveys to them a problem or constructive criticism.

"Along this line the National Refrigeration War Council has tremendous possibilities, both in pressing for answers to problems facing the industry and in screening and coordinating opinion within the industry for the benefit of the Advisory Committees.

Field Should Submit Problems

"I have already stated that, in my opinion, Sterling Smith and his associates and subordinates have open minds and attentive ears to the problems of the industry when properly presented. I am happy to be able to say that Sterling Smith has authorized me to say for him that he will be very glad to consider any proposals or constructive criticism from the industry, particularly, after it has the approval of the Refrigeration War Council or the members of the Industry Advisory Committee.

"Even Kiplinger, Babson, N.A.M., and others, are very careful to qualify any statement they make in regard to what the future holds. I am not as good as they are and certainly do not have the staffs that such prognosticators have to draw on. I would like, however, to give you a few impressions in regard to the future, which impressions are the result of my personal experience in Washington and my personal contacts with WPB.

"L-38, L-126, and P-126 will be amended or revised from time to time

as circumstances or exigencies of the current situation may require. Overlapping orders, which are, at least in part, responsible for the confusion that exists in so many minds, will be minimized.

"Incidentally, it has been estimated that there are a minimum of 42 Limitation Orders of the 'L' and 'M' series which directly affect at least some segments of our industry, and this number does not include the 17 Priority Regulations and eight CMP Regulations, nor does it include other Limitation Orders which the industry comes in contact with in placing purchase orders with other manufacturers and suppliers. This is a worthy effort but needs the support of the entire industry. Those who have started the movement feel that this overlapping should be eliminated and the industry controlled exclusively by L-38 and L-126 plus the Priority Regulations and CMP Regulations.

"Every effort will be made to secure for the industry its appropriate share of the total available raw materials, and this is particularly true in regard to material required for repairs and maintenance of existing equipment.

"The Armed Services will continue to require refrigerating and air conditioning equipment to a degree that will insure fairly steady production throughout most of the industry. The In-Use Program will be continued and may grow in importance, depending entirely upon the scarcity of raw materials and the duration of the War.

"The processing and conservation of perishable foods will increase in importance and will result in an expansion of present facilities to the degree that specific programs are properly sponsored and materials made available by the WPB Requirements Committee for the execution of such programs.

A Peek Into the Future

"As the War progresses there will be fewer new production plants constructed, but new developments in synthetic processes and the application of refrigeration equipment to other industrial processes will continue to produce a very considerable demand for refrigerating and air conditioning equipment.

"In this connection Sterling Smith has asked me to say to you that he endorses the suggestion that has been made that A.S.R.E. make a survey of the research facilities available in the industry and, with the owner's consent, offer them or bring them to the attention of the OEM Office of Scientific Research and Development and the WPB Office of Production Research and Development, with particular reference to potential applications of refrigerating and air conditioning equipment to new industrial processes.

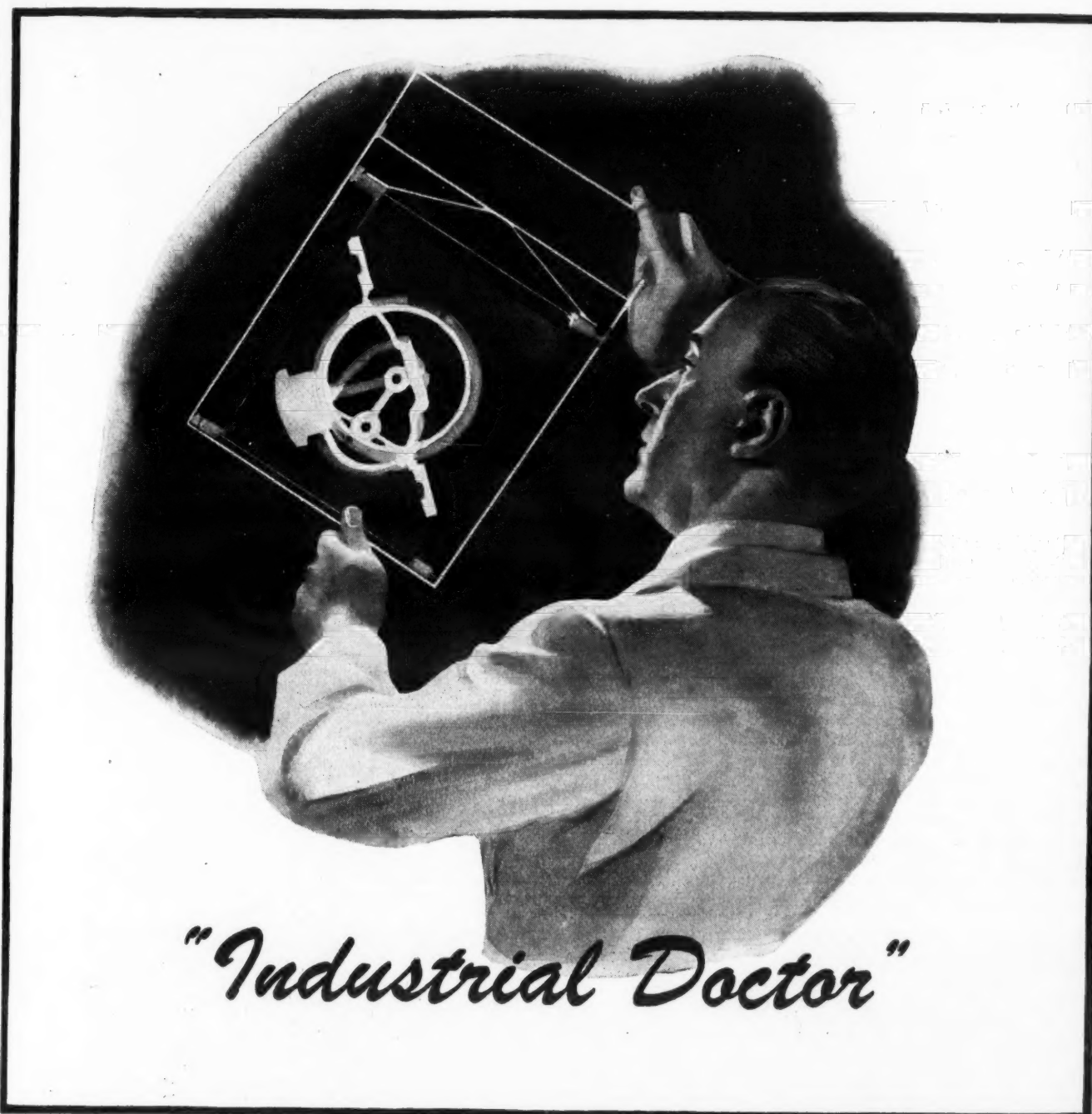
"To often in the past, Mr. Smith thinks, refrigeration has been an afterthought with the obvious result that undesirable limitations are placed on the refrigeration or air conditioning installation.

"This should reach out into Postwar Planning, which offers tremendous possibilities as a result of new developments.

"As an example of this Mr. Smith visualizes the necessity for refrigerated cargo space in the air transport of the future, and since such transports are already in the design stage, he feels it is none too early for refrigerating engineers to get into the problem of designing a suitable refrigerating plant for such air transports.

"An almost parallel example is rail transportation of the future. On the assumption that much of the existing equipment will be worn out and must be scrapped at the end of the War, it is logical to visualize radical changes in design over anything yet in existence. Mr. Smith feels very strongly that designers of such equipment should be appraised of new and potential developments in refrigeration and air conditioning for such applications and he urges you refrigerating engineers to accept this challenge.

"In what I have said I have attempted to indicate to you my impressions regarding some of the problems that are facing our industry and at the same time have interspersed in my remarks several messages which Mr. Smith has asked me to convey to you.



Today

This "doctor" is giving a physical examination, not to a part of the human body, but to a part for an aircraft engine, a tank or a gun.

The X-ray is proving to be a most important tool in industry as well as in the field of medicine. Vital parts of all kinds for our mechanized equipment are having their pictures taken by modern, high-power X-ray machines, to show up stresses, strains, and possible flaws. No chances can be taken when the lives of our boys and the successful prosecution of the war is at stake.

And, no chances are taken in the subsequent developing and handling of the sensitive X-ray films, to make certain that they will show every minute detail. Accurate temperature control of solutions in air conditioned, dustless laboratories insure the quality of the finished film so that proper diagnosis can be made, and stresses and strains carefully studied. Accurate results would be exceedingly difficult to obtain without the aid of refrigeration and air conditioning.

TOMORROW

New developments and experience gained in the manufacture of war equipment will be applied to the many products of peace. Super-powered X-ray machines capable of looking through heavy steel will give us new insight into the operation of mechanical equipment, and thus make possible better design and longer life.

In the science of medicine the X-ray will help guide doctors along the road toward the goal for which humanity is constantly striving, the eradication of disease and the extension of man's span of life.

In countless ways, refrigeration and air conditioning will contribute to the health and comfort of the human race.

Detroit Expansion Valves and Controls are doing their part in this important application of refrigeration by accurately controlling the temperature on special X-ray developing tanks to assure the highest standard of the finished film.

Wherever dependable refrigeration is needed, there you will find "Detroit" refrigeration products. If you have a refrigeration problem, let us help you.



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Production of 25,975 Additional Iceboxes Scheduled This Quarter

6 New Companies Included In Quota Assignment

WASHINGTON, D. C.—A revised schedule for production of ice-boxes, assigning an additional 25,975 units to manufacturers' quotas for the present quarter, was issued May 28 by WPB.

As amended, Supplementary Limitation Order L-7-c (Domestic Ice Refrigerators) authorizes a total of 239,575 ice-boxes to be produced in the current calendar quarter for civilian use. This is in addition to units that may be produced for National Housing Administration projects.

Quotas have been assigned to six new companies, and the quota of one manufacturer, previously assigned 5,000 units in the schedule, has been raised to 10,000. No other changes appear in the revised list.

Increased allowed production as provided by L-7-c today does not guarantee an identical increase in actual production, the Consumers Durable Goods Division, which administers the order, pointed out.

"The entrance of six new manufacturers into the production picture heightens the prospects, but only as far as production capacities are concerned," the division said. "The supply of raw and finished materials is the final limiting factor. Although 10 ice-boxes are now being produced from the same amount of steel that was used in just one unit in pre-war years,

supply of steel for civilian use is scarce and uncertain. In addition, there has been a growing shortage in civilian supply of hardboard. Hardboard (Masonite) has been as important as steel in war production of ice-boxes, and manufacturing has been handicapped by the tightening of this supply.

"The industry has devised, tested, and is adapting substitutes for Masonite. Despite handicaps of limited production capacities and scarcity of materials, the production rate is expected to reach about 75,000 units a month."

Icebox Production Order

Part 993—Domestic Ice Refrigerators (Schedule III, as Amended May 28, 1943 to Supplementary Limitation Order L-7-c)

Section 993.7 Schedule III to Supplementary Limitation Order L-7-c is hereby amended to read as follows:

§ 993.7 Schedule III to Supplementary Limitation Order L-7-c. Pursuant to paragraph (b) (2) of Supplementary Limitation Order L-7-c, the following production quotas for domestic ice refrigerators are hereby established for the period from April 1, 1943 to June 30, 1943, inclusive. During that period each person named is authorized to produce without limit as to number, domestic ice refrigerators pursuant to orders bearing preference ratings of AA-5 or higher, provided that he delivers such domestic ice refrigerators to the person placing such orders prior to July 1, 1943, and in addition, each per-

son named is authorized to produce the number of domestic ice refrigerators set forth below opposite his name:

Name:	Number of domestic ice refrigerators
Alaska Refrigerator Co., Brooklyn, N. Y.	4,000
American Fixture & Mfg. Co., St. Louis, Mo.	10,000
American Sanitary Partition Co., Long Island City, N. Y.	5,000
Atkins Table & Cabinet Co., Brooklyn, N. Y.	3,000
Broquinda, Inc. of Florida, St. Petersburg, Fla.	5,000
Brunswick Refrigerating Co., Brooklyn, N. Y.	4,000
Chattanooga Stampings & Enameling Co., Chattanooga, Tenn.	3,400
Coleman Furniture Co., Pulaski, Va.	10,000
Colson Metal Products Co., Kansas City, Mo.	5,000
Cooler Co., Duluth, Minn.	33,000
George H. Dean, Inc., Norwood, R. I.	3,000
Dratch's Victory Refrigerator Box, Brooklyn, N. Y.	2,500
Fy-Boro Metal Products Co., Inc., Brooklyn, N. Y.	6,000
Getz Bros. & Co., San Francisco, Cal.	5,000
Ice Cooling Appliance Corp., Morris, Ill.	20,000
Iceland Refrigerator Co., Inc., Brooklyn, N. Y.	3,600
King Refrigerator Corp., Brooklyn, N. Y.	5,000
Jack Langston Co., Dallas, Texas	500
Maine Mfg. Co., Nashua, N. H.	13,500
Minton Lumber Co., Mountain View, Calif.	5,000
Modern Refrigerator Co., Brooklyn, N. Y.	5,000
Modern Refrigerator Works, Glendale, Calif.	4,500
C. Nelson Mfg. Co., St. Louis, Mo.	4,000
Progress Refrigerator Co., Louisville, Ky.	10,000
L. D. Reeder Co., Los Angeles, Calif.	5,000
Sanitary Refrigerator Co., Fond du Lac, Wis.	15,000
Seeger Refrigerator Co., St. Paul, Minn.	20,000
Seneca Furniture Co., Seneca, S. C.	75
Stoddard Mfg. Co., Mason City, Iowa	2,000
Success Mfg. Co., Gloucester, Mass.	6,000
Victory Mfg. Corp., Baltimore, Md.	3,500
Ward Refrigerator & Mfg. Co., Los Angeles	18,000

War Production Board,
By Joseph Whelan,
Recording Secretary.

They Take New Posts With Universal Cooler Corp.



A. J. Mattes (left) has just been appointed service manager, and E. G. Haight (right) has been named assistant sales manager of Universal Cooler Corp. is an announcement of promotions made by F. S. McNeal, president. Both men have been with the company for a number of years.

Purchase of Refrigeration Tools and Gauges Requires Some 'Shopping Around'

Power Co. Comes Up With 'Shoppers's Guide' Suggestions

PITTSBURGH—Although supplies of tools for refrigeration repair work are limited, it is possible to acquire needed equipment if a purchaser will use priority ratings intelligently, is willing to "shop around," and be patient with unavoidable delays, declares the West Penn Power Co.

Some items such as leak detectors and gauges have not been manufactured for months, and other tools are being produced in small quantities. This shortage at the source has brought about undependable stocks in the hands of wholesalers and long delays in delivery on orders.

West Penn Power Co. offers suggestions to alleviate supply trouble until manufacture of tools and equipment is resumed as follows:

1. If you are buying an item requiring a priority rating, obtain and use the best rating to which you are entitled.

2. Permit the substitution of a similar item, if possible.

3. Allow the supplier as much time as you can to make delivery.

The reason given for using the best priority rating possible is so that a supplier may extend the ratings to replenish his stock. If he does not have these ratings, he is forced to request an inventory increase by filling out a PD-1X.

"Shopping around" often times, it has been found, turns up an acceptable substitute and is recommended to help wholesalers balance their stocks. As the paper states in this connection, "There are floating supplies of some equipment, and wholesalers are sometimes able to work out deals among themselves which bring in supplies from other areas which are able to spare them. Thus, even gauges which have been out of production for a long time are occasionally obtained by wholesalers in this area."

Form PD-1A should be used for obtaining priority rating on domestic refrigerator tools or supplies, and it should be filled out according to instructions for satisfactory results. This form is for domestic servicing exclusively and cannot be used for commercial or industrial parts or supplies.

While most established firms servicing commercial or industrial refrigeration or air conditioning are operating under P-126, there are a few who are not and, consequently, they are handicapped by having to make application for priority rating on each order. The utility recommends that all recognized servicing agencies not now working under P-126 qualify themselves at once under P-126 for

smoother operation.

Another recommended source of tools and equipment made by the West Penn paper is the second-hand market. A sizeable quantity of useable "second-hand" material has shown up in the Pittsburgh area since the entrance of service men into the army and factories.

Servel, Inc. 6 Months' Profit \$650,696

NEW YORK CITY—Servel, Inc. reports for the six-month period ended April 30 a net profit, after taxes, of \$656,696 or 38 cents a share, compared with \$94,709 or 5 cents a share for the same period a year ago. For the quarter ended April 30, Servel reveals a net profit of \$306,108 against \$99,886 for the corresponding quarter of the previous year.

THE EMBLEM OF QUALITY
EBCO
Electric Water Coolers
WRITE FOR DETAILS
The EBCO Manufacturing Company
401 W. TOWN STREET COLUMBUS, OHIO

For: TRUCKS, LOCKERS, COOLERS,
COUNTERS, CABINET CONVERSIONS,
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KOLD-HOLD
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EVAPORATIVE
CONDENSERS

Full range of sizes

KRAMER TRENTON & Co.
Heat Transfer Products
TRENTON, N. J.



RADAR, the secret weapon, tells the story of PHILCO at war!

When the Army and Navy released the secret of Radar, the sensational story of Philco's vital contribution to Victory was officially revealed. Radar, the fabulous weapon that pierces fog, storms and darkness and seeks out the enemy beyond the range of human eyes and ears, is one of Philco's major war assignments.

Throughout its overwhelming leadership in radio, Philco laboratories pioneered in the science of ultra-high frequency radio waves, upon which Radar is based. When the Jap struck, Philco was ready to answer the

call of our fighting forces for "impossible" deeds of Radar development and production. Today, theirs is the most dramatic story that has yet been told from the annals of war production.

Even more important will be the peacetime sequel to these Radar achievements. In radio, television, refrigeration and air conditioning, only the future can reveal the untold progress that will appear under the famous Philco name... and the greater opportunities that will unfold to appliance dealers in the Philco All Year 'Round franchise.

PHILCO CORPORATION

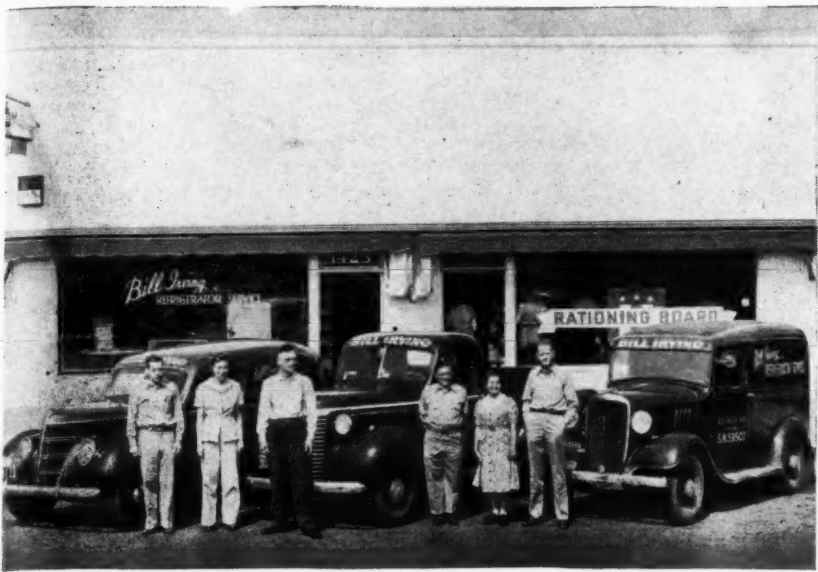
OUR WAR PRODUCTION PLEDGE: MORE • BETTER • SOONER

"VIRGINIA" REFRIGERANTS
AGENTS FOR KINETIC'S "FREON-12"

VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

Busy Service Concern Shows Way To More Contributions To War Effort

Aid Rationing Work, Help Teach American Principles



The Bill Irving Refrigerator Service, Inc. in Santa Monica, Calif., is not only "keeping 'em running," but has contributed to the Home Front effort in many other ways, including turning over part of its store to the Ration Board (see picture) and distributing copies of the "Your America" booklet. Members of the company are, left to right: F. C. Kirkham, serviceman; Martha Harvey, servicewoman; Proprietor Bill Irving; A. Held, serviceman; Mrs. Bill Irving; Ray Fariss, serviceman.

SANTA MONICA, Calif. — Although William C. Irving of the Bill Irving Refrigerator Service is kept busy by ordinary routine of "Keeping 'em running," he has offered a further contribution to the war effort by the distribution of two booklets, 10,000 copies of "Your America" distributed through the public school system, and 20,000 copies of "Wartime Suggestions", which were delivered directly to the door.

He has already turned over half of his building for use by the local ration board.

The booklet "Your America" contains primary facts in the background and construction of America's

government. Presented by the Frigid-aire division of General Motors Corporation, it includes important dates in history, brief reviews of the nation's natural resources and leading manufactured products, and highlights from documents of national importance.

"Wartime Suggestions" is an illustrated booklet providing helps on how to get the most out of a mechanical refrigerator. This is directly in line with the war program which is helping toward the preservation of food.

Irving is president of the Refrigeration Service Engineers' Society, Los Angeles Chapter No. 1.

ODT Head Continues Campaign To Discourage Trade Meetings

WASHINGTON, D. C.—Cancellation of all furniture marts for the duration of the war has been requested by Joseph B. Eastman, Director of the Office of Defense Transportation.

The request for discontinuance of the furniture marts was made as part of ODT's campaign to discourage holding of conventions, trade shows, sales meetings, and similar gatherings which impose heavy, concentrated traffic burdens on railroads and intercity bus lines.

In a letter sent to managers of the various furniture marts and to furniture manufacturers, dealers, and other members of the industry, Mr. Eastman pointed to the need for drastic curtailment of passenger travel and said he had no doubt that, from the transportation standpoint, the furniture marts should be cancelled.

Text of Mr. Eastman's letter follows:

Dear Sir:

The Office of Defense Transportation has been questioned by numerous individuals, associations, manufacturers, retailers, etc., regarding its position with respect to furniture marts this year. Because of the number of these inquiries, I believe it is appropriate to outline to all interested parties, in a uniform way, our position with regard to this question.

At the outset, it must be recognized that we are urging complete conservation of passenger travel for the remainder of the war, and that this is necessary to enable the carriers to discharge their military and essential business travel responsibilities. In view of this policy, I am regarding travel to furniture marts in no different light than travel to any other trade shows, sales meetings, conventions, group gatherings or other meetings, which cause concentration of travel. No group or individual will be singled out in our program asking for voluntary conservation of travel; everyone must share in this campaign.

As you know, the Office of Defense Transportation has consistently discouraged unnecessary travel, and travel stimulating events. With essential travel demands increasing, and with an outlook for continued in-

creases in future months, our responsibilities permit no other policy. We and the carriers are embarking on a campaign toward intensifying the public realization of the need for conserving in the use of our passenger carrying facilities, recognizing that this campaign must be successful if rigid controls over passenger travel are to be avoided.

From a transportation standpoint, I am wholly convinced that civilian travel, conventions, group gatherings, trade shows, etc., during the remainder of the war must be eliminated or drastically curtailed to safeguard the essential passenger service which the war effort requires. That the furniture marts may be socially or economically desirable from other points of view I am quite ready to believe.

Although rather comprehensive evidence has been submitted indicating that there might be some over-all travel saving throughout the Nation as a result of holding these marts, assuming that if they were not held there would be a continuing necessity for individual travel through all sales and manufacturing territories, we are not convinced that this assumption is wholly correct, and in any event the marts cause a concentration of travel which is conspicuous and burdensome on the carriers, much more so than diffused travel spread over a period of months. This concentration of travel cannot be considered consistent with the policies of travel curtailment and control which are so necessary if the carriers are to accomplish their war-passenger job.

My concern is entirely with respect to transportation, and from that point of view I have no doubt that the marts should be cancelled. This conclusion has been reached only after giving careful consideration to comprehensive data on the subject of marts and all similar shows and their relation to the transportation demands of our country.

I trust that the above will clarify our policy with regard to gatherings of the type in which you are interested, and that it will be possible for you to cooperate fully with our travel conservation program.

Joseph B. Eastman, Director.

Auto Owners Can Trade In Present Car For Delivery After the War Is Over

NEW YORK CITY—Owners of automobiles can now trade them in for new cars for postwar delivery under a plan to be operated by Universal C. I. T. Credit Corp., sales financing subsidiary of Commercial Investment Trust Corp., as announced May 25 by Arthur O. Dietz, president.

Mr. Dietz explained that at the time of trade the car owner and dealer will agree upon a cash value as well as a trade-in value to apply on the purchase of a new car for postwar delivery. The dealer will forward his check for the trade-in value to Universal C. I. T. Credit Corp.'s nearest branch office, and the corporation will issue to the car owner a postwar escrow receipt guaranteeing his trade-in allowance.

Funds received from dealers will be put in a special escrow account, and the Escrow Receipt is redeemable by the owner as part payment when new cars are again available for delivery. If the owner should not want to wait for new car delivery, Mr. Dietz explained, he could recover the amount of the cash value from the corporation on demand, and the corporation would pay to the dealer the difference between the cash and trade-in values.

"Under this plan," Mr. Dietz continued, "we make no charge for our services. And by helping dealers establish a backlog of new car orders to fill after the war, as well as making used cars available for them to sell in today's market, we hope our plan will provide some compensation for automobile dealers whose spirit

and resourcefulness not only have kept their doors open, but have enabled them to play a vital part in conserving our national transportation facilities.

"If delivery of a new car is taken," Mr. Dietz added, "the corporation will pay the full amount of the trade-in value to the dealer, who applies this amount to the price of the new car."

Mr. Dietz claimed that the car owner will benefit by saving the costs of insurance, storage and maintenance on a seldom-used car, besides acquiring a preferred position with the dealer in obtaining a new car when delivery restrictions are discontinued.

The following advantages for the car owner claimed in the plan are:

1. He can save the cost of insurance, storage, maintenance and further depreciation on his present car.
2. He receives a higher postwar trade allowance than immediate cash allowance for his old car.
3. The full amount of trade-in value is safeguarded by the cash resources of the finance company.
4. He can cash in his receipt for the value of his old car any time.

Advantages claimed for the dealer:

1. He can close more deals with customers who want a guaranteed allowance for their cars.
2. He can obtain used cars for sale in today's market, stimulating his current sales activity.
3. He sets up a backlog of new car sales for future delivery.
4. He is diverting idle cars from non-essential drivers to those engaged in essential war activities.

Hotpoint Issues Manuals On Appliance Repairs

CHICAGO—Five pocket size service books have been released by Edison General Electric Appliance Co., Inc. to retail stores and service men for guidance in the operation of Hotpoint electrical appliances.

"Refrigerator," "Range," "Home Laundry," "Kitchen Sanitation," and "Water Heater" are the five titles of the subjects treated in the service guides. Pointers and data on each type of electrical unit are arranged for quick reference. Of particular value, especially to the beginner in service work, are the cut-away sections and diagrams.

The service division says that the books, which are being sent to Hotpoint distributors without charge, incorporate only the best service theories that company engineers have been able to work out through years of experience and practice.

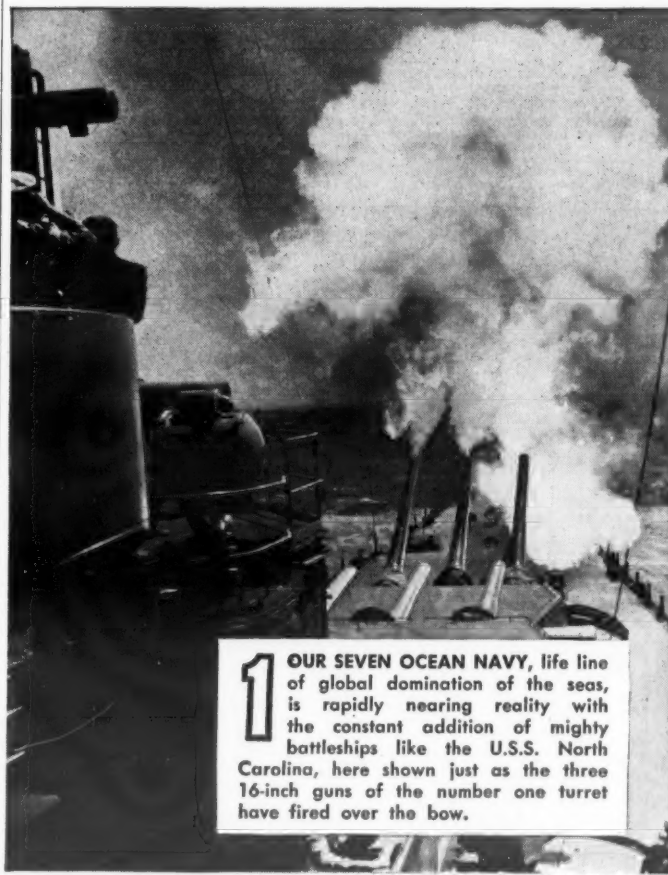
Geist Handles Airtemp

Line In New Setup

PITTSBURGH—Post-war planning finds H. S. Geist, sub-contractor with Frank Limbach, 1722 East Ohio St., North Side, newly authorized to handle Chrysler's entire line of commercial, industrial, and small residence cooling in Western Pennsylvania.

In addition, Mr. Geist is part of an arrangement whereby estimators in other contracting fields working in adjoining offices pool their sales leads, thereby increasing considerably the number of possible sales-sources contacted.

FAMOUS LIFE LINES



Official U. S. Navy Photograph

1 OUR SEVEN OCEAN NAVY, life line of global domination of the seas, is rapidly nearing reality with the constant addition of mighty battleships like the U.S.S. North Carolina, here shown just as the three 16-inch guns of the number one turret have fired over the bow.



Photo by U. S. Army Signal Corps

2 PRACTICALLY EVERY U. S. ARMY VEHICLE, like this truck plowing through the mud roads of Iceland, is helped to "keep rolling" by life lines of Bundy Tubing—gas lines, brake tubes, oil lines, hydraulic controls, and an average of more than fifteen other tubing parts.

WITHIN EVERY SHIP of our mighty Navy—in every Army vehicle, in every plane that flies—are humble, but vital, life lines of metal tubing.

They provide the pressure that turns tank turrets. They feed Diesel engines. They keep powder cool. They power the brakes on trucks and jeeps.

These life lines are Bundy's contribution to Victory.

Wherever fuel and lubricants must flow, wherever vacuums must be created or hydraulic pressure trans-

mitted—there is Bundy Tubing. You find it even in the lamps of Army surgeons; and in the rip cord grips of parachutes.

Bundy Tubing is now used for some 5,000 parts in the vehicles, weapons and equipment of our armed forces—at sea, ashore and in the air.

The list is growing steadily. And Bundy plants, which have tripled their output in the past two years, stand ready to meet new demands as they may come. Bundy Tubing Company, Detroit.

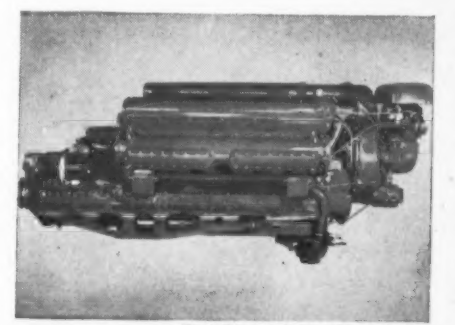


Photo Courtesy Packard Motor Car Co.

MARINE ENGINES FOR SMALL CRAFT—Engines for the Navy's smaller craft—PT Boats, landing barges and "crocodiles"—have many "life lines" of Bundy Tubing, such as primer tubes, Diesel injector tubes, fuel and lubrication lines, and hydraulic control tubes.

BUNDY TUBING



ENGINEERED TO YOUR EXPECTATIONS



BUNDYWELD double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From capillary sizes up to and including 12" O. D. This double-walled type is also available in steel, tin-coated on the outside, and in Monel.



BUNDY ELECTRICWELD steel tubing. Single-walled—butt welded—annealed. Available in sizes up to and including 24" O. D. Can be furnished tin-coated outside in smaller sizes.



BUNDY "TRIPLE-PURPOSE" tubing. Double-walled, rolled from two strips, joints opposite, welded into a solid wall. Available in all Monel; all steel; Monel inside—steel outside; Monel outside—steel inside. Sizes up to and including 12" O. D.

Buy U. S. War Bonds
Get in Your Scrap

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)
to be dense," he relates, "but I never thought it was going to be so heavy as it actually is. You can't see more than four or five feet ahead of you. And six feet ahead, a Jap might be hidden. The Aussies said that the Malayan jungles were just well-tended gardens in comparison.

"We fought, slept, and ate, under water. You could set your watch by the rain, because it started every afternoon at 3:30. We traveled as light as possible, because our food was limited to what we could carry. That meant no toilet goods, which explains why we all had three months' growth of beard.

Malaria struck many of our boys, because swampy, tropical New Guinea reeks of it. But Dick didn't come down with it until after he had been hospitalized following his wound. Then it came on in earnest, and he dropped 40 pounds while fighting it.

No Dull Moments

Smoking was about the only pleasure the boys had outside of killing Japs. When they ran out of American cigarettes, they'd roll up tea leaves in newspaper tearings, or they'd try whiffing the "native twist" a powerful smoke indeed.

It was next to impossible to sleep because the Japs kept the nights hideous with all sorts of noises, and

individual Jap patrols were always out with bayonets and knives. Never did they come out and "fight like a man." Rather, all their shooting and knifing was "sneak stuff."

"Did you take any prisoners?" we asked.

"Nope," Dick grinned. "The only Japs we got close to were dead Japs. Nor did I bring home any souvenirs, because I saw what happened to souvenir-hunters. If our fellows got inquisitive about a Jap body, that body was either a sniper playing possum, or was rigged up as a booby trap."

Dick can't use his right arm in the mailing room now, but we are planning a whole new line of endeavor for him.

Our Boys

Just for the record, we have a lad on a destroyer in the Atlantic, one on a minesweeper in the Guadalcanal area, a Marine down in that neighborhood, a young man riding a Liberator bomber all over hellangone, a naval officer preparing for duty on an aircraft carrier, a chap in Egypt, one in the Canal Zone, an officer in a tank-destroyer battalion, a code expert, and several in training.

The stories they tell when they all get back will really be worth hearing. And if you keep your subscription in force you'll read some!

Morale Builders

They all write us grand letters, full of cheer and stuff, under the obvious belief that a civilian these days needs his morale kept up!

Here's an example, from a lad who rides a powder keg every day in one of the most dangerous jobs of the war:

"We work, often get up by moonlight and keep on the go until moonlight. But we don't work too hard.

"Things that have interested me:

"Having filet mignon for breakfast (lack of refrigeration, honest, it would spoil).

"Piloting most kinds of ships except battlewagons.

"A double rainbow that made a complete circle through sky and water.

"Riding in a jeep where a motorcycle could not have followed.

"Getting thoroughly lost in a real live jungle.

"Having dinner with a Navy Captain. It was good.

"Watching planes land on a carrier, from the carrier.

"Following along in a school of blackfish in a picket boat (made by Chris-Craft).

"Using a gas mask and a compressed air tube as a shallow-water diving outfit. It worked swell, was fun.

"Dinner last night: Lettuce salad, ice tea, steak, French fried potatoes, peas, olives, sweet pickles, ice cream, apple pie. Two Wisconsin blonde Army nurses (note to wife: believe it or not, they were dating Newton and the Captain). Perfect service by

Evangelista, superb Filipino mess attendant.

"All our crew are faithful to from one to five girls at a time.

"Little luxuries we like: Three radios on board. Programs from KWID, S.F. Phonograph hooked up with public address system on board, and lots of records, many by Bing and T. Dorsey. The equivalent of hotel room service only more so, with mess attendant for just three of us, Time, Fortune, Life, Satevepost, Reader's Digest, and books from Thorne Smith to Shakespeare and back again. Coca-cola on hot afternoons at sea.

"We have lots and lots of flies, swat them and flit them all day.

"The Navy is dry on the sea, wet on the land.

"Uniforms we have worn in these general parts of the world: Blue service, with white cap covers; white service, which is all white except brass button and gold braid; khaki, usually with open shirt collar, no tie or coat; khaki shorts (not official); white shorts (not official), wear them lounging on the month's day off; parts of the last three above.

"We swim now and then.

"The jelly fish: He or she is mostly round when you look down on him or her. They are pastel shades, all colors, pink and orange and blue; they fill a harbor thick as stars in the sky; they look like the old-style Christmas tree balls of glass; some are poisonous; they melt, yes melt, if taken out of the water and put in the sun.

"Yes, we feel like this sounds. It's the heat.

"About two month's mail arrived on one day last week, so we had Christmas and a picnic combined."

a result of this experience, I offer it to others. Each company should establish its own rules to suit its own conditions.

"Large plants on three shifts might have the prize for attendance for each shift. The size of the 'kitty' is optional but should be large enough so that it presents an extremely desirable award to the winners. The penalty to be deducted from the 'Kitty' should be great enough to make an appreciable difference in its size.

"In addition, this plan engenders among the workers a considerable 'esprit de corps' that has resulted in better workmanship."

Bricker a Target

Insiders don't take too seriously the candidacy of Gov. Bricker of Ohio for the Republican presidential nominee. He's the front runner now, the man who is getting all the publicity. By the same token—and possibly by design—he's the target for all the bitter shafts New Deal supporters can aim.

The strategy is much the same as that followed by Roosevelt in setting up Wallace and McNutt as targets for the opposition to shoot at in the early months of maneuvering.

Bricker will come to the convention with a fistful of votes, which may be swung to dark-horse Taft in case the country's shift of sentiment continues to swing back toward conservatism and "minding our own business."

If the war's still on, Willkie will probably be thrown to the wolves, because in that case a Fourth Term would seem almost assured.

No Quick Decision

At that, it's beginning to look as if the war will still be on after the elections. There is a gambling chance of ending it earlier, and American military leaders want impatiently to throw the dice. But the British, we hear, do not want to risk their big home army against the bristling defenses of continental Europe until Germany has been absolutely pulverized from the air. They are also said to be interested in watching Germany and Russia chew each other up a while longer.

So long as the German war is to be a war of blockade and attrition, a tremendous quantity of our ships will be tied up in supplying that big British army, our own forces over there, and the English civilians.

That means the great bulk of our Army will still be at home in America for a long, long time.

We now have the greatest Navy by far, the greatest Air Force by far, and the third largest land army in the world. Some believe that our Air Force and our Navy alone can bring Germany and Japan to their knees by 1945 (with the aid, of course, of the Russian army). This line of thinking is currently said to hold favor in the highest councils.

Harry Alter Solves Absenteeism

At hand is a new pamphlet on "Ways of dealing with Absenteeism," issued by the WPB's War Production Drive Headquarters for the guidance of its Labor-Management Plant Committees.

The pamphlet deals with methods effectively used in combating the in-plant causes of absenteeism, and suggests methods for developing community cooperation in handling other situations which contribute to lost time on war jobs.

It is a good pamphlet, and we recommend it to your attention.

However, the best plan yet devised for curbing absenteeism, in our opinion, is that introduced by Harry Alter, Chicago refrigeration jobber.

Let Harry tell about it in his own words:

"A realistic approach to the problem of absenteeism is to appeal to the selfish interests of the employee, as well as to his patriotism. We have adopted a plan that does just that.

"It involves a contribution on the part of the employer of an attractive sum of money, or war bonds, and stamps, called the 'Kitty,' to be used as an attendance prize, chosen by 'lucky number' drawing weekly. Only those with perfect attendance records are entitled to draw, which undoubtedly offers a great inducement to each employee to maintain perfect attendance.

"But that is not enough! The real punch in our plan is to penalize the 'Kitty' by deducting from it a certain amount for every individual case of absenteeism that occurred during the week. Thus, all of the employees in a plant are adversely affected by each case of absenteeism committed by a fellow-worker.

"As an example: Assume a plant has 300 employees, and the management decides to put up a 'Kitty' of \$100, to be divided among three lucky winners say, 50% to first name, 30% to second name, and 20% to third name, drawn from the hat. Then, for every case of absenteeism during the week \$2.00 is deducted from the 'Kitty' so that 20 absentees reduces the 'Kitty' by \$40.00, leaving only \$60.00 to be divided among the employees that week.

"Think of the resentment against the chronic absentees that will be developed among regular-attendance employees as a result of this plan.

"An effective force for maintenance of regular attendance develops among the employees themselves that has produced a marked reduction in absenteeism in my own company. As

Tools for Machining Aluminum

FOR GENERAL MACHINE SHOP PRACTICE

TOOLS for machining aluminum should generally have more top and side rake than is common for machining steel; the cutting edges should be keen and the tool surfaces should have a smooth, bright finish.

In the following illustrations, a wide range of rake angles is indicated. In general, the larger rake angles are employed for finishing tools and for the aluminum alloys that are not free-cutting; this includes the softer materials which require tools with exceptionally acute and keen cutting edges. On the other hand, rake angles

in the lower range are used for roughing cuts and for machining the alloys that have free-cutting characteristics. Tools similar to those used for machining steel may often be employed successfully.

TOOL MATERIALS—High-carbon steels are good for many jobs where the cutting speed is low. High-speed tool steels are better for quantity production. Cemented-carbide-tipped tools are superior to high-speed tool steels, especially for aluminum alloys with a high silicon content.

CUTTING SPEEDS AND FEEDS—Generally, aluminum can be machined to best advantage by using the highest speed at which the equipment is capable of operating, with moderate feeds and cuts.

CUTTING COMPOUNDS—Use a copious amount of cutting compound. Soda water or soluble oil may be used for milling, drilling, and sawing operations. Mineral oil with the addition of 5 to 10 per cent fatty oil, such as lard oil, is an excellent lubricant. A 50-50 mixture of kerosene and lard oil gives excellent results.

LATHE TOOLS

MILLING CUTTERS

DRILLS AND REAMERS

PLANER TOOLS

THREADING TOOLS

FILES

SAWS

ALUMINUM COMPANY OF AMERICA
PITTSBURGH, PENNSYLVANIA

HANG ONE
OF THESE
CARDS
IN YOUR
SHOP

The information printed on this large card (14" x 20") will answer many questions for machine operators, to whom the machining of aluminum is new. Use this coupon to send for a copy or write us on your company letterhead—

ALUMINUM COMPANY OF AMERICA
1975 Gulf Building, Pittsburgh, Pa.

Please send me your wall card on "Tools for Machining Aluminum."

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
TOWN _____ STATE _____

Filtrine
WATER COOLERS

Cafeteria Models
Self-contained Storage
And Remote Types

Shipboard and Land Use
for
Film Processing
Bakery Service
Drinking Water
Brine Cooling
War Industries
All Purposes

Complying with
Army and Navy Specifications
Immediate Shipment!

Filtrine
MANUFACTURING COMPANY
531 Lexington Ave., Brooklyn, N.Y.

'Serviceable' Auto Parts No Longer Can Be Scrapped

WASHINGTON, D. C.—Scrapping of serviceable used automotive parts was stopped May 20 by the War Production Board with the issuance of Conservation Order M-311.

The new order provides that on and after June 1, 1943, irrespective of the terms of any contract or agreement no person shall scrap, sell or deliver as scrap any used automotive part listed in Schedule A attached to the order, except when such part is "no longer serviceable."

The order in no way prevents individuals from selling vehicles to automobile wreckers; but it will encourage wreckers to retain serviceable parts for resale instead of passing them along to steel mills and furnaces in the form of scrap.

The prohibition against scrapping used parts covers not only auto wreckers and scrap dealers but all persons in the business of buying or processing used automotive parts for resale whether rebuilt or "as is."

M-311 also provides that no person shall sell or deliver any used automotive part to a consumer unless the consumer delivers to such person a used automotive part of similar type and size, except where the part for which the consumer requires a replacement has been stolen or destroyed. This restriction does not apply in the case of governmental agencies, prohibited by law from disposing of used automotive parts.

Commenting upon today's order, R. L. Vaniman, Director of the Automotive Division of the War Production Board said, "The enormous quantities of steel scrap delivered to the mills and furnaces during the past year by the auto wreckers and scrap dealers is a matter of great satisfaction to the War Production Board and constitutes a valuable contribution to the war effort. But the time has now come when the demands of the motor transportation system are such that we can no longer afford, in our efforts to produce scrap, to destroy serviceable used parts."

Ex-Repairman Solves Production Problem; Reward Over \$500

BLOOMFIELD, N. J.—Lawrence Handler, former radio repairman and amateur radio "ham," took a war job seven months ago to put his training to work for Uncle Sam. Recently he received a substantial suggestion award from the Westinghouse Lamp Division for an idea that has boosted production of radio tubes needed for war communication equipment.

His idea to change the design of a machine tool fixture has resulted in an average daily saving of nine production hours and critical materials by preventing tube breakage, engineers reported. A maintenance foreman at Westinghouse, the war worker was presented with a check for \$541.50, a \$50 war bond for the "best suggestion of the month" and a WPB merit award.

The fixture is essentially a collar-like device which fits over the end of the tube mechanism to hold it in place while the glass bulb is sealed around it. In order to release this "collar" after each sealing operation, it formerly was necessary to hammer it back to its original position, thus sometimes damaging the fixture and cracking the glass tube.

In searching for some way to avoid this damage, Handler hit upon the idea of installing three metal "jaws" on the fixture which would pull the collar back to its original position and eliminate the need of hammering.

Mr. Handler also concluded that if ball bearings were installed on the fixture, it would eliminate the motion caused by friction when the collar was released. This motion had been another frequent cause of injury to the radio tubes.

Mr. Handler formerly held a radio commercial operator's license and devotes much of his spare time to this hobby. Before coming to Westinghouse, he worked as a commercial radio electrician and serviceman.

Ilg Plans New-Type Blower Laboratory

CHICAGO.—Plans for a new Research Laboratory, remote from the present plant of the Ilg Electric Ventilating Co., 2850 North Crawford Ave., Chicago, have been approved by the board of directors, according to John M. Frank, president.

The new building is to be constructed immediately west of the present plant. Of one-story, modern construction, it is being specially built to be shake-proof and to a considerable extent sound-proof.

Equipment for the new building will include latest scientific instruments for measuring air, electricity, sound, light and vibration. Since the building is of vibration-proof construction, extremely sensitive apparatus is being installed for sound analysis. Stroboscopic equipment will be supplied for checking deflections while equipment is in operation. A separate heating plant will provide steam and hot water for testing steam and hot water unit heaters.

U. S. May Buy 'Inactive' Plumber's Fittings

WASHINGTON, D. C.—Purchase by the WPB of "inactive" or "unusable" stocks of copper and copper-base alloy pipe and tube fittings held by plumbers and suppliers may soon be undertaken in order to increase the supply of copper for war uses, according to reports circulated here last week.

It is said that such fittings will be used in their present forms so far as is practicable, but if they cannot be used they will be purchased for remelting to war uses.

The fittings which cannot be used in their present forms would be purchased by the government at a price of 20 cents per pound for cast brass and bronze pipe and tube fittings, it is said, and 27½ cents per pound for wrought copper fittings.

Holders of idle stocks have been asked to report inventories of copper and copper-base alloy fittings on WPB form 2668.

Pittsburgh League Assists In Sponsoring Vocational Refrigeration Training

PITTSBURGH—Training classes in refrigeration service were opened last month in two vocational high schools here.

Sponsored by the Pittsburgh Board of Education, the classes, through "shop training and classroom instruction on refrigeration, radio and general appliance service" will fit a man to "go into a dealer's shop and assume responsibility."

The training program was set up following a survey conducted by the Pittsburgh Electric League to determine how many "gainfully employed" repairmen in this large industrial section were not working overtime and would welcome extra cash to meet higher living costs "by helping to 'keep appliances running'."

In studying the survey, it should be considered that conditions in Pittsburgh change quickly, depending upon how many men will be drawn from the service business.

"It is not advisable," it was stated,

"to discard entirely the idea of using women for service work."

The survey of manpower was started here in January when an advertisement was placed in a Pittsburgh paper offering part-time work in appliance repairing and training to men who were mechanically inclined.

More than 400 men—many more than had been anticipated—(welding, machinists, maintenance men—even bank clerks, public accountants, salesmen in all fields) answered the advertisement.

Of these men, "between 75 and 100" already were experienced electrical repair men who were referred to service dealers throughout the territory. Many dealers now are employing them part time.

"Approximately 125" others of the original 400 had "exceptional mechanical aptitude" but needed "specific training on repair work—and were enrolled in the new Appliance Repair Training Classes.

Looking Ahead in Air Conditioning with Charles S. Leopold



CHARLES S. LEOPOLD is the consulting engineer who has designed many of this country's largest air conditioning systems, including those for the Nation's Capitol and for the War Department's huge Pentagon building. As Kinetic's guest commentator for the month, he gives us some of his thoughts on air conditioning for the present and post war period.

"Air conditioning is not a new science. The fundamentals were known and applied in the last century.

"In the period 1900-1920, the greatest increase in use was for industrial processing of materials which were affected by the moisture content of the air.

"In the early twenties, conditioning for the alleviation of discomfort was popularized by its use in moving picture theatres. The conditioning of department stores, office buildings, and other commercial structures and dwellings soon followed.

"At present, conditioning is finding widespread use in industry for processes involving moisture control, air cleanliness, precision machining, special laboratory needs, and the maintenance of proper atmospheric conditions for large industrial buildings, including enclosed structures of the blackout type.

"It is reasonable to believe that the widespread use of air conditioning in the office buildings, stores and hotels of the South will rapidly be extended to their manufacturing. Major strides in this direction are being made under the pressure of war production.

"The effect of widespread use of controlled atmospheres on the geographical availability of skilled labor offers interesting speculation, both as to the effect on the efficiency of native labor and labor which migrates to the less temperate areas.

"Throughout the country there has been a wide application of air conditioning in industry, both for product control and workers' efficiency. Due to the vast numbers of people who for the first time are now working in conditioned spaces there will be an accelerated demand, similar to that occurring in the twenties, when this war is successfully concluded. How much of this demand will be realized in new installations will be largely a matter of post war economics.

"Additions to the engineering development of air conditioning have continued through the war period, particularly in the low temperature air field. These additions, for a large part, have been refinements. Basically sound air conditioning has been obtainable for many years and nothing in the new development has as yet indicated obsolescence of previous good installations."

Mr. Leopold accepts our invitation...

This is the second of a series of "Freon" advertisements appearing in "Architectural Record." In this series we have invited leaders in the field of air conditioning and refrigeration to comment on present and post-war prospects.

Although Mr. Leopold's remarks are addressed primarily to architects and consulting engineers, we believe they will prove of interest to all concerned with the future of air conditioning and refrigeration. Kinetic Chemicals, Inc., makers of "Freon" safe refrigerants, Wilmington, Delaware.



FREON

REG. U. S. PAT. OFF.

safe refrigerants

"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.

Among refrigerants "Freon" is unmatched in the combination of safety features it brings to refrigeration and air conditioning. By specifying "Freon," the architect can avoid any possibility of penalty to his client in insurance rates and promote safety of life and property. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington, Delaware.

PUBLISHED IN THE
INTEREST OF
AIR CONDITIONING
AND REFRIGERATION

Steps Necessary In Seeking Deferment For Servicemen, Other Essential Workers

1. How to Prepare An Individual Case

Since many dealers and service men have asked the NEWS to explain the exact procedure for requesting a deferment for a necessary service man, and since the situation is so critical right now, the editors are supplying the following information.

Who Is Eligible to Deferment

According to Occupational Bulletin No. 42, issued Jan. 9 by the Selective Service Bureau of the War Manpower Commission, men holding the following positions are considered necessary to the war effort and are therefore eligible for deferment:

refrigerator repairman
electric appliance serviceman
electric motor repairman
gas appliance serviceman
maintenance mechanic (all around)
oil burner installation and service-man
radio repairman.

These essential workers (designated by Occupational Bulletin No. 42) can be deferred only if the employer makes application for the deferment. The individual cannot apply for himself, except in cases of service engineers who are in their own employ.

The present draft regulations make all men between the ages of 18 and 38, single and married without children, liable to military service.

The only blanket deferment given at present is to farmers.

What Is the First Step

In order to meet consumer service needs as efficiently as possible, to insure the wartime conservation of materials policy, and to make sure that the servicing of air-conditioning and refrigeration units in plants now engaged in essential war industries will continue smoothly and without needless delay due to a shortage of service men, it is suggested that every dealer and service firm take the following steps immediately:

1. Submit form 42B for each man of military age who is supporting a child or children in his home.

Filing form 42B for men now classified as 3A makes it necessary for the Selective Service Board to give the employer 15 days' notification of reclassification of these men into 1A. During that 15 days, the employer may file form 42A, applying for deferment.

2. For deferment of men now classified as 1A, form 42A should be filed right away.

Include Letter With Form 42A

With form 42A, it is advisable to include a letter, drawing attention to important facts, such as:

(1) authority of the board to defer refrigerator service and repair men.

(2) necessity of registrant's work in preservation of health and food.

(3) number of service calls made by the registrant in homes and factories.

(4) shortage of materials which increases demands for service.

(5) the fact that repair calls will continue to increase.

(6) the impossibility of replacing the registrant immediately.

(7) the time needed to train a new man.

Forms 42A and 42B may be obtained from any local draft board.

How Appeals Are Made

If a deferment is denied by the local board, the decision may be appealed to the district appeal board. If this second appeal is refused, it may be appealed to the state appeal board. If the third appeal is refused, it may then be taken to the War Manpower Commission, which is unable to act in cases of selective service reclassification until the appeal has passed through both the district and state boards.

A photostatic copy of the Certificate of Authority under P-126 should be included with each appeal, if possible, to establish the fact that the registrant's job has been considered so necessary by the War Production Board as to warrant the application

of high priority ratings by him in his work.

2. Explanations of Replacement Schedule

Purposes of the Manning Table

The main objective of the Manning Table, a plan devised by the War Manpower Commission and the Selective Service System, is to help accomplish utmost utilization of the manpower of the nation, and to provide a guide for the replacement of those men who come under the present selective service regulations. It is a complete survey giving details of personnel requirements of the employer. It supplies information needed in the planning of hiring and transferring workers, training and upgrading, use of women, placement of handicapped persons, and the greatest utilization of manpower now within the industry.

The pamphlet "Instructions for Preparation of the Replacement Schedule" is a valuable aid in the orderly replacement of essential workers. A copy of the pamphlet may be obtained from your State Headquarters for Selective Service.

Data usually used in the preparation of the Manning Table will provide the information called for on the Replacement Schedule. However, a Replacement Schedule may be accepted by the State Director of Selective Service without a Manning Table, in cases deemed necessary or advisable.

Individual deferments may be obtained without having been included in a Replacement Schedule.

Making a Replacement Schedule

This is the procedure to follow in preparing a Replacement Schedule:

1. Get the complete selective service status of every male employee within the age limits of 18 to 38:

job title.
age (date of birth).
Selective Service order number.
Selective Service classification.
family relationship:
single.
married without children.
if children, the number of children.

2. Prepare a Replacement Schedule. On the Summary Sheet, list all of the various jobs, and show, by totals, the number of employees engaged in those jobs.

On the List Sheet, list the men, by name, subject to selective service under present regulations.

3. Then send two copies of the Replacement Schedule to the State Headquarters for Selective Service. If the state director accepts your schedule, it will be given an "acceptance number."

4. New 42A forms should then be made out for all registrants.

These forms must show the state acceptance number (after it has been received) and the name of the state in the following form:

Acceptance No. 37
Maryland State Headquarters
Selective Service System

This affidavit for occupational classification is filed in strict accordance with an accepted Replacement Schedule. This statement is made part of this affidavit.

This information goes in the space just above the signature of the employer.

Although married men with children are not liable to immediate call, registering them under the Replacement Schedule makes it necessary for the draft board to consult the employer before changing their selective service status. It is necessary to file only form 42B for these men.

If form 42A is filed for any man scheduled for replacement in six months or less, length of deferment time requested will be given in number of days. For men to be replaced in the second 6-month period, deferment time requested will be given in number of months, on the form.

The Regional Director of the War Manpower Commission will advise you 60 days in advance of the expiration of your present Replacement Schedule if he calls for a Manning Table. He may also require a new Replacement Schedule immediately, or may not call for one until the end of the regular six-month renewal period.

Use of the Manning Table is optional with the employer. If he declines, he continues under the present selective service status now existing in his shop.

Instructions in the preparation of

Manning Tables may be obtained from the Regional or Area Directors of the War Manpower Commission, who determine whether a plant or activity may submit a Manning Table.

Who Is Eligible to Use Manning Table

The industry in question must come up to these requirements before a Manning Table may be filed:

1. 75% of the products must be in war materials.

2. Or, it must be an essential activity or industry to the war effort.

The Manning Table is a three-part report, divided in this way:

Part I:

Lists the activity's personnel by individual job title.

Shows the skills and essential physical and other characteristics required by each worker for each job.

Part II:

Shows exactly where the anticipated vacancies will be, by individual job. By referring to Part I, it also shows the company's own view as to the particular skills required for each job. (This part of the Table includes information now furnished in Employment Service Form 270).

Part III:

This is the Replacement Schedule, which is divided into two sections, the Replacement Summary, and the Replacement List.

The Summary is arranged generally by job titles and by Selective Service status, made up from a survey of personnel of the employer.

The List shows the names of male employees who must be replaced so that they may become available for Selective Service, and approximately how long it will take to replace them.

It is well for the employer to have on hand records proving the essentiality of his business, for instance, the war-plants or industries his organization services, and lists of customers whose appliances and major units his employees serve, showing the increase in calls for consumer service.

Motion Pictures Will Depict Servicing of G-E Refrigerators

BRIDGEPORT, Conn.—The rapidly increasing importance of training household appliance repairmen has resulted in the adoption of movies for the first time to supplement sound slide films in demonstrating step-by-step details of repair, it is announced by the Product Service Division of General Electric Co.'s Appliance & Merchandise Department here.

First movie is called "Know Your DR," and is designed to show proper procedure in the repair of the DR type of refrigerator mechanism. The DR unit was introduced by General Electric in 1926, and was the first hermetically sealed unit on the market. Many thousands of the DR units are still in operation.

Fred Straub, assistant service manager of Rex Cole, Inc., G-E distributorship in Metropolitan New York, plays the part of the service man in the movie, which runs 25 minutes.

Showing of the film will be one feature of coast-to-coast refrigerator service training meetings to be staged soon in key cities by G-E distributors.

most complete range of styles and sizes—12 to 72 in. in the industry. New modern styling—priced for real value.



Reach-in CABINETS

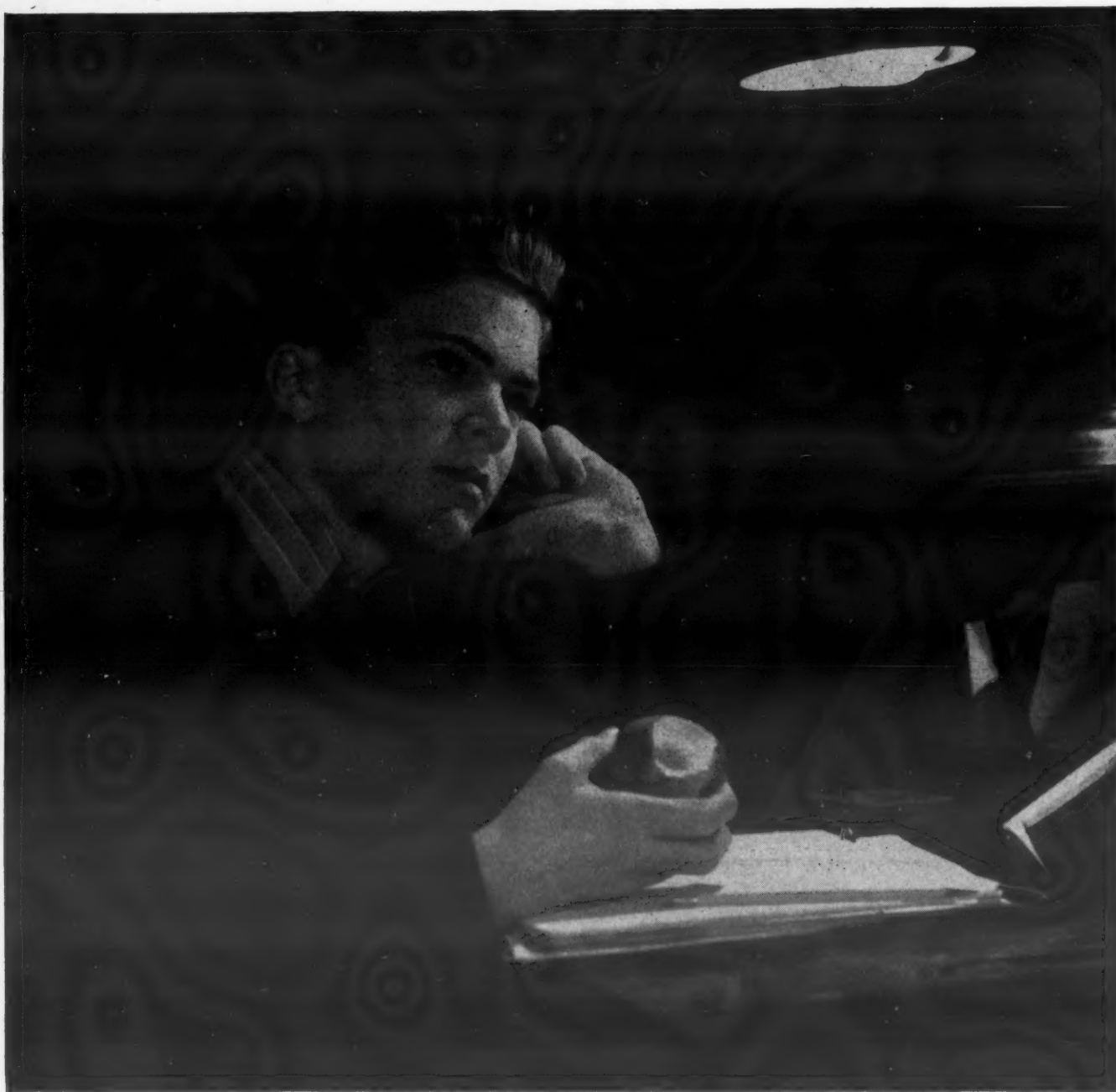
Milwood
Mfg. Company
SALESBURG, ILLINOIS

KEROTEST AIR CONDITIONING VALVES AND FITTINGS



Help Sustain Workers' Energy!

KEROTEST MANUFACTURING CO.
PITTSBURGH, PA.



A New Consciousness

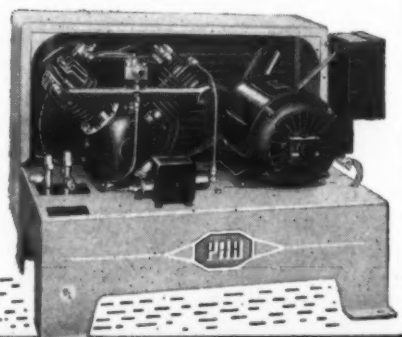
Throughout our land the thinking of young and old alike is changing. Machines, and all things mechanical, which were once taken for granted by many, are now familiar items. With record-breaking production there's an awareness of America's ability to produce better and better machinery of all kinds.

In the future this new appreciation of the mechanical will mean customers aware of better products . . . customers who will specify definite manufacturers because they will KNOW top quality.

While PAR Condensing Units have always been outstanding in their field, new developments and procedures created with our war assignments will make these condensing units even better . . . condensing units that will attract the keen, new market of tomorrow.

Manufacturers of
PAR Commercial Refrigeration Equipment

PAR
DIVISION



LYNCH MANUFACTURING CORPORATION • DEFIANCE, OHIO, U. S. A.

Inventories Down For Wholesalers of Electrical Goods

WASHINGTON, D. C.—Inventories of electrical wholesalers were 44% less during the first quarter of this year than in the comparable quarter of 1941, but sales fell off only about 9% over the same period, members of the Electrical Wholesale Distributors' Industry Advisory Committee were informed at their first meeting with officials of the Wholesale and Retail Trade Division, War Production Board.

Significance of the figures was emphasized by the disclosure that during the first quarter of 1942 inventories had increased 27% over the same quarter of 1941, and sales had jumped 31% during the same period.

Committee members agreed that the 1943 figures were an accurate picture of the electrical supply situation at the present time, showing depleted stocks in the face of a continuing demand. As an example of how the statistics can be translated into actual operating experience, they cited the small appliance field (covering such items as electrical irons and electric fans) where, they reported, replacements have become practically non-existent and difficulties in procuring repair parts threaten to impair the conservation program for existing equipment.

As one step towards arriving at a solution of this particular problem, the committee volunteered to make an appraisal of the minimum production of electrical appliances necessary for the civilian economy. When completed, results of the survey will be submitted to WPB.

Members of the committee also suggested that several positive steps be considered towards effecting the most equitable distribution of available inventories and limited new stocks. Among these suggested steps were:

1. Every WPB limitation order should include a provision permitting unrestricted transfer and exchange of goods at the distributor level. In this way, it was felt, slow moving stocks and overbalanced inventories between distributors would act as a check against over-accumulation on the one hand and serious shortages on the other.

2. Controlled distribution through an allocation procedure should be adopted when serious shortages of essential civilian or farm products develop. This step, it was believed, would operate against inequitable distribution of supplies which might develop in the absence of any controls.

Dr. Hainsworth Is Named Chairman of Research Institute

NEW YORK CITY—Dr. William R. Hainsworth, vice president in charge of engineering and research, Servel, Inc., has been named chairman of the Industrial Research Institute.

The Institute is made up of research executives representative of various types of industrial firms and industrial areas, organized for the purpose of cooperative study of their common problems.

The appointment of Dr. Hainsworth was made by the executive committee of the Institute. Dr. Hainsworth succeeds H. S. Benson, administrative engineer of the research division, United Shoe Machinery Co.

Dr. Hainsworth is a nationally known refrigeration engineer. He has been associated with Servel, Inc., since 1926, the year that company first manufactured gas refrigerators. Prior to that, he was head of the research department of the National Automatic Refrigerator Co. He also served as refrigeration engineer in charge of research of the National Refrigerator Co. He is a former president of the American Society of Refrigerating Engineers.

In 1933, Dr. Hainsworth received the Charles A. Monroe Award of the American Gas Assn., for improvements in which the principle of air cooling displaced use of water in gas refrigeration. Dr. Hainsworth resides in Larchmont, N. Y.

WPB Gives Setup For Its Bureau Of Distribution

WASHINGTON, D. C.—Internal organization of the Distribution Bureau of the War Production Board has been completed, J. A. Krug, Program Vice Chairman, has announced.

This Bureau is divided into five organizational units, including: (1) Office of the Director, (2) Controller Division, (3) Canadian Division, (4) Priorities Control Division, and (5) Compliance Division. W. John Logan is the Bureau Director.

Generally, the Distribution Bureau is established to prescribe a system of accounts and reports relating to the distribution of materials and products; to audit priorities actions; to process priority applications originating in Canada, to process "out-of-line" and special ratings; to obtain compliance with allocation actions, scheduling directives, and priorities orders and regulations of WPB; and to develop policy plans and general methods for the implementation of actions under the priority systems which do not fall under the jurisdiction of the Production Controls Bureau.

TO RECORD ALLOTMENTS

The Controller Division will:

(1) Prescribe accounting systems, records and reporting forms to be used by the operating units of WPB and Claimant Agencies in accounting for materials distribution and products;

(2) Maintain complete records of all allotments made to Claimant Agencies together with records of re-allotments by Claimant Agencies to their approved programs;

(3) Advise the controlled materials divisions and Industry Divisions and Claimant Agencies of the status of their accounts for which they are responsible under program determinations;

(4) Prepare periodic summaries and analyses of the distribution of controlled and other materials and Class B and other products;

AUDIT PRIORITIES

(5) Audit priorities and other materials distribution actions initiated by divisions, field offices, and other agencies, either within or outside of WPB.

The Canadian Division will carry out the priority policy of WPB with respect to Canada.

The Priorities Control Division will process requests for emergency AAA and other "out-of-line" ratings. It will process requests for ratings for emergency maintenance and repairs, formulate instructions for the review of priorities certificates issued by the Services, and make determinations on appeals by procurement officers from decisions of field analysts.

CONTROL DIVISION

The Priorities Control Division will also aid and advise the controlled materials divisions, the Office of Operations Vice Chairman, and the Claimant Agencies in implementing priority actions not under the jurisdiction of the Production Controls Bureau. Recommendations of operating officials of WPB and Claimant Agencies for improvement in policies, plans, and general methods of implementing such priority action will be submitted to the Priorities Control Division. It is also responsible for review, coordination, and approval of standard forms to be used under the priority system.

COMPLIANCE DIVISION

The Compliance Division is responsible for conducting surveys to determine the degree of compliance with orders and regulations. It is also responsible for investigating cases of alleged non-compliance with such orders and regulations.

Mr. Logan came to WPB from his position as Vice President of Central Hanover Bank, New York City. David Novick, Director of the Controller Division, was formerly an economist with the U. S. Tariff Commission. Joseph Tucker, who has been named Director of the Canadian Division, was formerly Vice President and General Sales Manager of the Oliver Farm Equipment Co. of Chicago. Directors of the Priorities Control Division and the Compliance Division have not as yet been named.

Servicemen Returning From War Building Jobs

PITTSBURGH—Return of refrigeration service men from large construction jobs now being completed—especially at New Castle and a war-plant site—back to refrigeration service work should help ease the service manpower situation some, believes W. J. Toms, service manager, C. R. Rogers Co., 5434 Penn Ave.

Asked whether he himself would return to refrigeration service work rather than take a war-plant job where at the start he wouldn't know how to work expertly, Mr. Toms said, "I would prefer returning to refrigeration. There, in the field in which I was trained, I believe I could best help the war effort."

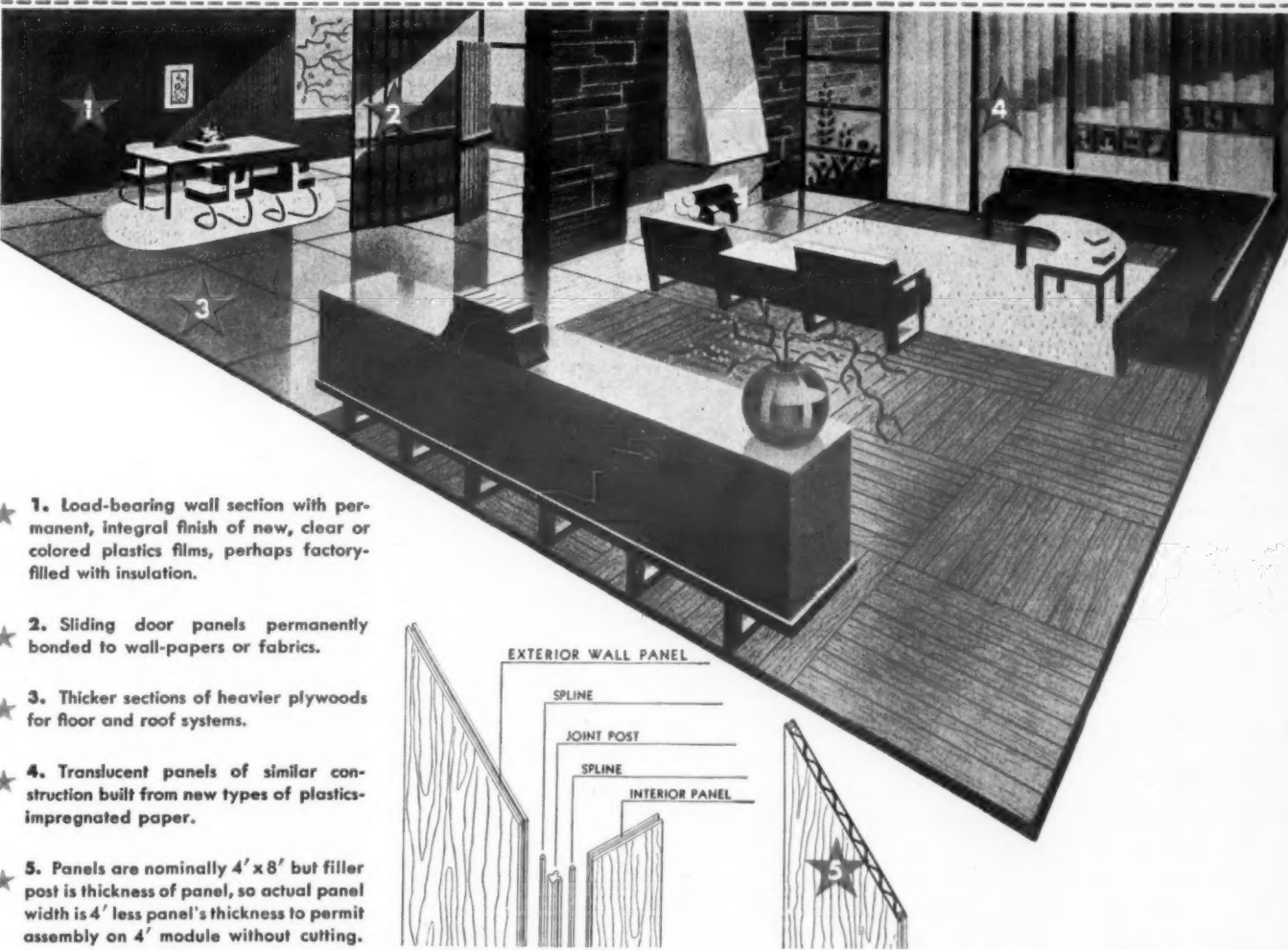
Home Nutrition Program Promoted by Servel

EVANSVILLE, Ind.—Promoted by Servel, Inc. and sponsored by local gas companies, a simple course called "The Home Volunteer Wartime Food and Nutrition Program" is in operation with the idea of lending a hand to women in these days of point rationing and food shortages.

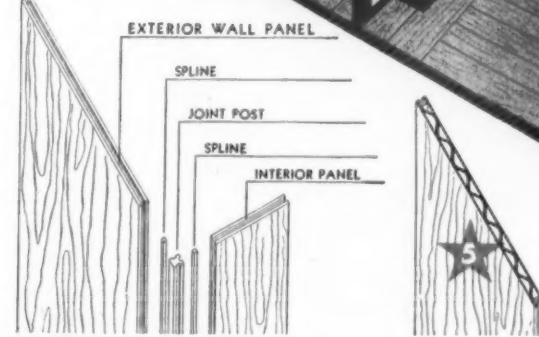
Study of the course may be worked out in the form of neighborhood meetings, club meetings, "home study," or via the radio or newspapers. Three instruction booklets, "Eating for Fitness," "Planning Your Own Nutrition Meals," and "Getting the Most Out of the Food You Buy," are offered.



Philip Will, Jr., A. I. A., and a plywood control part for a bomber. Mr. Will is a member of Perkins, Wheeler and Will, known particularly for their interesting, original residences. Most recently, their new Crow Island School at Winnetka, Illinois, has attracted wide attention for its fresh solutions to many school problems.



- ★ 1. Load-bearing wall section with permanent, integral finish of new, clear or colored plastics films, perhaps factory-filled with insulation.
- ★ 2. Sliding door panels permanently bonded to wall-papers or fabrics.
- ★ 3. Thicker sections of heavier plywoods for floor and roof systems.
- ★ 4. Translucent panels of similar construction built from new types of plastics-impregnated paper.
- ★ 5. Panels are nominally 4' x 8' but filler post is thickness of panel, so actual panel width is 4' less panel's thickness to permit assembly on 4' module without cutting.



The Broad and Versatile Family of Monsanto Plastics

(Trade names designate Monsanto's exclusive formulations of these basic plastic materials)

LUSTRON (polystyrene) • SAFLEX (vinyl acetate) • NITRON (cellulose nitrate) • FIBESTOS (cellulose acetate) • OPALON (cast phenolic resin) • RESINOX (phenolic compounds)

Sheets • Rods • Tubes • Molding Compounds • Castings • Vespak Rigid Transparent Packaging Materials

MONSANTO PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

President of N. J. Firm



E. O. Smith, formerly vice-president of Bundy Tubing Co., has been elected president of the Aga Metal Tube Co., Elizabeth, N. J. Mr. Smith was connected with Bundy for 15 years, and is a member of the Tube Industry Committee of the War Production Board.

Railroad Terminal To Get Quick-Freeze Plant

OGDEN, Utah—The R. D. Pringle Co., of Denver, Colo., announces that approximately \$100,000 has been appropriated for the remodeling of part of the Pacific Fruit Express Co.'s building in Ogden to provide for the installation of a quick-freezing plant.

WPB Set To Simplify Furniture Further

WASHINGTON, D. C.—A shortage of materials and manpower in the furniture industry is the cause behind plans now taking shape in the War Production Board, in cooperation with task groups from the industry, to simplify still further the manufacture of furniture.

With supplies of raw material rapidly disappearing, it was explained, only the most essential items of simple design must be built. Under order L-260, some phases in the production of furniture have already been simplified, but further restrictions are mandatory for the survival of future trade.

Utility Co. Broadcasts For Used Washers

PUEBLO, Colo.—Forced to advertise for a used electric washing machine to convert into a gadget for shelling peas, the Southern Colorado Power Co. found itself doing a right-about-face recently insofar as business methods are concerned.

Until the war came along the power company displayed and sold the usual complement of electrical devices such as washing machines and toasters. Lately though, no washing machine, either new or used, has graced the sales floor. So when a call came in from the community canning center for a washing machine to be made into a Goldberg pea-sheller, there was only one thing for the company to do—advertise for one.

FROM A BOMBER PART...PRE-FABRICATED STRUCTURAL WALL SECTIONS FOR 194X?

To fill wartime needs, plastics have developed surprising new muscles—and a more brilliant peacetime future than plastics producers themselves ever dared predict. This is particularly true of plastics in combination with other materials. For example, the light but amazingly sturdy and durable plastics-bonded plywoods now being molded into large, complicated shapes for aircraft.

Impressed by possibilities of these new plywoods, Chicago Architect Philip Will, Jr., has suggested this stimulating series of

pre-fabricated structural wall sections to permit custom-built individuality without sacrifice of mass-production economy.

Panels would be formed into one integral unit from three sections of plywood with the inner section corrugated to impart load-bearing strength and added rigidity. New plastics glues and recently developed new tools, based on induction heating principles, may even make it possible to bond panels like these quickly...and economically...into one, monolithic unit...on the site.

WHAT WILL THE FUTURE BRING?

Frankly, despite wartime advances, problems are posed above that no one in the plastics or building materials industry has yet fully solved. It is logical to assume, however, that the two industries, working together, will produce materials for 194X equally as exciting as these suggestions. And it is equally logical to assume that postwar plastics materials and techniques will contribute equally stimulating new ideas to your particular field... When the time comes to talk "future" on your products, you will find Monsanto, as one of the country's largest plastics producers, an excellent source of information. MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

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Higher Scrap Requirements

REQUIREMENTS of purchased iron and steel scrap for 1943 have been raised by the Steel Division of the War Production Board from a previous estimate of 22,600,000 net tons to the neighborhood of 24,000,000 to 25,000,000 net tons. This has made it even more imperative that industry reach its quota of 9,300,000 tons of iron and steel scrap by July 1.

Shipments of iron and steel scrap in January declined 320,000 tons or 13% from those of December, 1942, the figures being 2,078,000 net tons and 2,398,000 net tons respectively. Compared with January a year ago, however, shipments were 222,000 tons or 12% greater.

Preliminary figures for February indicate that shipments will reach 1,880,000 net tons as against 1,968,000 net tons in February, 1942. This showing was better than generally expected, despite the fact that shipments ran below a year ago for the first time in several months.

The consumption of purchased iron and steel scrap by the mills and foundries was rather closely in line with receipts of scrap by these same consumers during January and February.

Actually consumption of purchased scrap during these two months exceeded receipts by a slight margin so that inventories of purchased scrap held by consumers dropped around 200,000 between the last year-end and Feb. 28, 1943. This is not too alarming in view of the fact that inventories in the hands of consumers are high.

According to the National Safety Council, scrap often becomes an accident hazard. Digging out scrap and turning it in for use in the war effort constitutes a two-way offensive against the enemy. All individuals, firms, and organizations that collect and contribute their scrap are pushing a main column into enemy territory by providing material for planes, tanks, guns, ammunition, and other war necessities. But they are doing even more than that. They are sending a flanking force

They'll Do
It Every
Time
By
Jimmy
Hatlo



against the enemy by striking at accidents here at home—accidents that delay production and postpone victory.

Scrap and rubbish left lying around haphazardly cause many accidents. There is no way of knowing just how much is still lying around—like enemy snipers waiting to pick off a worker—in attics, basements, and yards of American homes; in stores, warehouses, machine shops, and factories; on the farms and on dumping lots.

But however much there is, and wherever it is, this scrap is committing a double wartime crime—dodging use in war industry, and threatening injury or even death to the nation's home front workers.

In 1942, our first year of the war, 93,000 persons were killed and 9,000,000 injured by accidents in the United States. The total estimated cost of these accidents was close to four billion dollars.

It is hardly necessary to point out the tragic consequences of this staggering toll. But it should be kept in mind that accidents in these times also constitute a very real menace to our all-out victory effort by keeping much-needed workers off the job, and by preventing the civilian population from doing its total best.

COPPER SCRAP IS NOW A NO. 1 PROBLEM

The government now classifies copper scrap as the Number One industrial salvage problem. Regional Salvage Managers of the War Production Board have been asked to arrange meetings with members of Industrial Center Committees to formulate plans to increase the collection of copper, brass, and bronze scrap by 62½% in 1943.

The United States depends upon scrap as the source for approximately 40% of its copper. Hamilton Wright, Chief of the WPB Industrial Salvage Branch has informed all offices to put particular emphasis on dormant copper, brass, and bronze scrap.

A partial list of items that should be thoroughly examined for scrap purposes, among readers of AIR CONDITIONING & REFRIGERATION NEWS, would include:

Public Utilities: Transmission, distribution, and service lines; bus bars; segments; switch plates; copper pipe and tubing; lead covered copper wire; insulated copper wire; condenser tubes; old sheet brass and pipe; valves; bearings; bushings; lamp bulb bases; tur-

bine rotor blades; transformers; generators.

Production: Copper pipe and tubing; trolley wire; feed lines; trolley wheels; pump bodies; sleeves; impellers; jig plates; mine screens; journal bearings; armature bearings; flanges; valves; bearings; bushings; copper cable; armatures.

Chemicals: Copper pipe and tubing; copper tanks; valves; bearings; bushings; stills; condensers; autoclaves; measuring vessels; rollers.

Plumbing and Heating: Copper pipe and tubing; brass pipe and old sheet brass; valves; tank fittings; floats; flanges; cocks and faucets; traps; motor bodies.

Electrical Equipment: Field coils, insulated wire; copper pipe and tubing; name plates; bushings; bearings; bus bars; segments; switch plates, switch board equipment.

HAVE YOU DONE THESE THINGS IN A SCRAP DRIVE?

Industry is asked to make up a deficit that has been forecast at 625,000 tons of refinery brass and copper bearing materials. In checking over your own salvage efforts, it is suggested that you ask the following questions:

1. Do you feel that your salvage campaign was successful?
2. Have you previously attempted salvage in your business, if so, how does the success of your current campaign compare with previous efforts?
3. If previous campaigns were unsuccessful—why?
4. Who is in charge of your current salvage campaign? Is he an officer of the company? Is he given full authority to scrap? What sort of help is he given?
5. How much scrap are you (or have you) collected? Can it be broken down into

- Non-ferrous metals
- Iron and steel
- Waste paper
- Rubber
- Chemicals.
- 6. Did your campaign uncover any equipment that could be sold or transferred to other locations for use in the war effort?

This is a campaign that should challenge the ingenuity of every plant manager in the industry. On its success depends the continued flow of materials to your plant as well as others.

Best regards and suggest that you keep plenty of REFRIGERATION NEWS publications around for G. Gregory's training period.

Harry H. Landis, Jr.

LETTERS

IT MAKES THINGS HAPPEN

Mont Clare Music Shop
7115 West Grand Ave.
Chicago, Ill.

Editor:

I agree with your open letter to T. K. Quinn. There is only one thing that our business needs. A "Trade Diversion Bill" like that just passed in Minnesota.

Enclosed find check for \$10.00 for our subscription and I want to say that to be without the News is to be in business without anything happening.

Louis Tomaso, Manager

A PLAN FOR BETTER SERVICE—

Landis Electric Company
121 N. Duke Street
Lancaster, Pa.

Editor:

I have had something in the back of my mind for several years and suppose it is no good or it would have come out before this. It's about Electric Refrigeration Service Men.

I have felt that he isn't receiving sufficient recognition as a specialty man and don't know exactly who is to blame for this. The thing that touched off this smoldering flame was an article in this week's Post about the way in which Mr. Carey of New York placed the sanitation department of New York on a higher plane. If you haven't read this article you should get a Post and read it.

It has seemed to me that the Refrigeration Service Man has been treated as an ordinary plumber's helper. He hasn't been paid enough and many good men have left this field for better paying jobs in industry before the war was ever started. The war naturally accentuated this migration. Those service men who have stayed are being paid better and it will be a real problem to reduce them after the war.

The problem, therefore, as I see it is to do something that will not only place the refrigeration service man on a higher plane in public esteem but something that will justify higher charges to the customer by making him more efficient. This, it seems to me, will take several different approaches.

Here are a few suggestions: 1. Standardize on a standard type of uniform for all refrigeration men. 2. Make some type of seal available for these uniforms. 3. Get up a suggested kit for the standard type tools and have it bear the seal. 4. Devote one page of your publication to Refrigeration Service improvement methods. This service man's page should have short pertinent suggestions for doing quicker and better service. Other pages of the REFRIGERATION NEWS could still carry service news as well but not of the same short suggestive type as the service page. 5. You could control all the use of seals. It shouldn't be necessary for a service man to be a genius in order to use the seal. The seal shouldn't guarantee anything in particular to a customer.

What do you say to starting some discussion of it in your publications by asking some other dealers, distributors, or manufacturers how they feel about something of this sort? All of us owe a great deal to these service men for the strides that have been made in public acceptance of the electric refrigerator.

Best regards and suggest that you keep plenty of REFRIGERATION NEWS publications around for G. Gregory's training period.

Westinghouse Calls in Distributors On Post-War Planning Committee



These men constitute the Westinghouse Electric Appliance Division's Planning Committee—three factory executives and six distributor representatives—which plans "things to do now" and discusses post-war activities. Standing, left to right, are J. H. Ashbaugh, division manager; W. W. Grant, director of marketing research; E. C. Brauning, vice president, American Sales Co., Columbus, Ohio; and T. J. Newcomb, division sales manager. Seated, same order, are Henry Czech, district manager, Westinghouse Electric Supply Co., Chicago; H. B. Donley, general appliance manager, Westinghouse Electric Supply Co., New York City; J. S. Shaw, manager, electrical department, Moore-Handley Hardware Co., Birmingham, Ala.; E. B. Ingraham, president, Times Appliance Co., Inc., New York City; and T. F. Savage, president, Intermountain Appliance Co., Denver, Colo.

MANSFIELD, Ohio—Factory and distributor representatives will sit together for discussion of post-war plans and the development of wartime activities for distributors and retailers in a nine-man planning committee recently appointed by the Westinghouse Electric Appliance division.

This group of six distributor members, representing the entire Westinghouse distributor field, and three factory executives is headed by T. J. Newcomb, sales manager.

The complete membership includes E. B. Ingraham, president, Times Appliance Co., Inc., New York City; H. B. Donley, general manager, Westinghouse Electric Supply Co., New York City; E. C. Brauning, vice president, American Sales Co., Columbus, Ohio; John Shaw, manager, electrical department, Moore-Handley Hardware Co., Birmingham, Ala.; Henry Czech, district manager, Westinghouse Electric Supply Co., Chicago; T. F. Savage, president, Intermountain Appliance Co., Denver, Colo.; J. H. Ash-

baugh, division manager, W. W. Grant, director of marketing research, and Mr. Newcomb.

One major objective of the committee is the discussion of postwar plans to be developed in detail later. Otherwise, the meetings will be held from time to time for the purpose of making a study of such activities as appliance service, nutrition, conservation of materials, and consumer education in the care and use of electric appliances.

Recommendations brought out in these meetings will reach all Westinghouse distributors and dealers through their six representatives. These same six committee members will also be responsible for contacting other distributors to get fresh ideas.

It is the belief of the committee that if the distributors cooperate with the public now on problems involving nutrition and care of electrical appliances, a lot of good-will can be built up to bring future returns. The planning committee's slogan is, "Do It Now—For Later."

N.A.M. To Oppose 'Layaway' Plan of Installment Sales

NEW YORK CITY—Various proposals of installment selling for post-war delivery, including the "Nugent plan," most publicized of the numerous "installment-selling-in-reverse" ideas, have been opposed by the board of directors of the National Association of Manufacturers.

The Nugent plan, advanced by Dr. Rolf Nugent, an economist serving with the Office of Price Administration, proposed purchases now of refrigerators, air conditioning equipment and other durable goods for postwar delivery.

A resolution adopted by the N.A.M. listed the following four basic reasons for opposing this type of buying for postwar delivery: It is in direct competition with the sale of war bonds; it would not result in more sales after the war; the tendency would be to stifle the development and sale of new products after the war, and it would require double selling and double expense.

In expressing fear that undesirable competition might develop between the Treasury's campaign for the sale of war bonds and a high-pressure campaign for sale of installment certificates for goods to be delivered after the war, the association's board noted that its stand was in accord with the views of Secretary of the Treasury Henry Morgenthau.

It was pointed out that when the public invests in war bonds it can devote the proceeds after resumption of normal production to the purchase of any goods or services.

The N.A.M. board also raised the question of who, under such plans, would assume the risk in case of a sharp postwar inflationary increase in the price level.

Gov't Official Tells Small Business To Organize

NEW YORK CITY—Organization of small business in terms of management advice and counsel should take place in preparation of the post-war period to prevent complete government control of business, William Sheperdson, chief of the small business unit of the Bureau of Foreign and Domestic Commerce, told members of the New York Credit Men's Assn. at their meeting held recently in the Waldorf Astoria hotel.

As a means of insuring the survival of small business, labor and industry, already organized, will have to cooperate further in the interest of nationwide industrial security, the speaker said. By organizing, he pointed out, small companies will be able to maintain their relative positions after the war through co-operation with big business.

Believing, too, that some plan must be worked out to make available capital and credit to small business, Sheperdson said that credit men, working through their national associations, could do much toward strengthening small business financially by arranging definite terms of credit.

"Perhaps you may also want to consider the benefits which the entire economy would derive from making available to small business more fully adequate management advice and counsel," he said.

There is no reason to believe that manufacturing capacity will be too great following the war, according to David L. Podell, special assistant to the Attorney General, in view of enormous consumer needs which are being shelved until production can be reconverted to the output of civilian goods.

'War Model' to Mean Simplification First

NEW YORK CITY—If and when a "war model" program is undertaken, it will merely be an "accelerated form of simplification," it was declared by Howard Coonley, director of the conservation division, War Production Board, in an address during the annual meeting here of the American Association of Advertising Agencies.

"It is not even considered necessary to require the adherence to 'victory models,' as was done in the case of bicycles," Coonley said. "Specifications of the maximum amount of material that can be used, minimum standards of quality or performance and areas of price range will be indicated. The minimum quantity that is required to take care of base needs will be established."

Coonley explained that standardization as interpreted by the WPB was "not the molding of styles and types of products into a fixed form, and it is not a requirement that identical procedures or designs be followed which would destroy individuality."

Often, he added, it is only a single element in a product that must be standardized to achieve the necessary degree of simplification and seldom is more than standardization of a few elements needed.

As a result of standardization to achieve interchangeability, he said, the number of repair groups necessary to keep military equipment going has been cut by two-thirds in some instances.

A. J. Weatherhead Wins Special Honor for Ordnance Development

For "inventive ingenuity" which resulted in war production designs to save large quantities of critical materials, many machines and man-hours, A. J. Weatherhead, Jr., president of the Weatherhead Co., Cleveland, has won tributes from Army Ordnance officials. A citation signed by Major General L. H. Campbell, Jr., Chief of Ordnance, was presented (above) to Mr. Weatherhead by Col. Harold M. Reedall, chief of the Cleveland Ordnance district, at a special ceremony at the Weatherhead plant May 17. Mr. Weatherhead was honored for work in connection with steel tubing for primers.



Pigeons Mailpouch Made In Conditioned Factory

SOUTH ORANGE, N. J.—With carrier pigeons playing an increasingly important role in World War II communications, a new light-weight

plastic message capsule is being produced by Lusteroid Container Co. of South Orange.

Because manufacturing process requires low relative humidity, capsules are being produced in space which is air conditioned by a Carrier system.

It's Time to Tell About Refrigeration's "Hidden Services"



..take
**ICE
CREAM**
for instance..

Even a schoolboy, eating his Ice Cream Cone on a hot summer day, knows that Ice Cream and Refrigeration just naturally must stick together as long as possible.

But to the average consumer of this delightful food dessert, Refrigeration means—"hard" or "soft." He does not know that even slight variations of DEGREES of Refrigeration in the manufacturing processes may well determine the smoothness of texture, and even the rich flavor of the Ice Cream. Carefully CONTROLLED Refrigeration in "Mix" cooling and storage, the temperature of the "Mix" when drawing it off for packing, the time required for hardening, plus effective protection in storage, delivery and in Retail stores—all have their effect on the final quality—and popularity—of Ice Cream.

Helping maintain CONSTANT Refrigeration, at accurate and steady temperatures, for safe food processing and preservation, is one of the expected tasks of A-P DEPENDABLE Refrigerant Valves. Their proven ability to perform this task more effectively and economically is playing a vital role in keeping mechanical Refrigeration up to wartime peaks of efficiency with a minimum of service attention and replacement parts.



A-P Model 205—Used in Ice Cream hardening and Storage Units.



A-P Model 207—Popular in Ice Cream Processing, Trucks, Retail Cabinets.

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY-SECOND STREET
MILWAUKEE WISCONSIN
Export Department
100 Varick Street . . New York City

AP DEPENDABLE
Refrigerant Valves

ARMING AMERICA WITH FACTS

...Servel and its sales outlets



Shortly after Pearl Harbor...

With the advent of war, the busy hum of production lines at Servel factories took on a new sound... a sound keyed to a higher pitch. It told that they were turning out—not refrigerators and equipment for the home, but war equipment.

Today, Servel factories continue at peak war production. But this is only part of the way Servel is throwing its energy into the fight. With the co-operation of the government, with the help of its dealers, Servel developed and is sponsoring 3 complete food and nutrition programs to help build a stronger America.

In
FEB. 1942

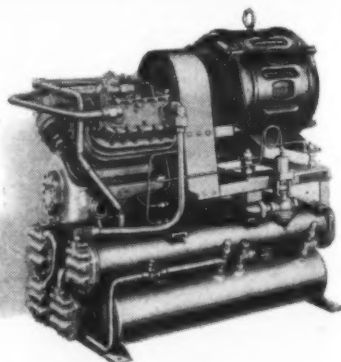
The **HOME VOLUNTEER WARTIME FOOD AND NUTRITION PROGRAM** was launched by Servel to help American homemakers prepare the healthful, energy-producing meals needed by a nation at war. For over a year, more than 450 Utility Companies serving over 12 million customer families have been sponsoring this program, bringing to women all over the country helpful information on nutrition... purchasing... meal planning. This comprehensive program has now been expanded to meet the needs of food rationing.

In
SEPT. 1942

A simple, easy-to-apply **NUTRITION IN INDUSTRY PROGRAM** was announced by Servel to help American war workers select the right foods—not only at home, but on the job. With increased production demanding greater physical fitness and less lost time from war labor, this program of "IN-PLANT" application is now working for America in hundreds of war plants.



Servel factories work round
the clock producing
war materials for home
and fighting fronts



COMMERCIAL CONDENSING UNITS for use by our armed forces and in vital war industry applications.



AIRCRAFT ASSEMBLIES and parts, including wings, cylinder heads, tubing, crash skids, and radio parts.

TS ABOUT FOOD AND NUTRITION

et help build a stronger nation!



*And now with
food rationing here...*

**SERVEL'S NEW RADIO PROGRAM
TO HELP HOMEMAKERS**

"Fashions in Rations"

Every Saturday morning, Servel sends from coast to coast, over 68 CBS stations, a half-hour radio program dedicated to helping American homemakers

with rationing. It's a new type of show that combines chuckles and laughter with timely, helpful, accurate information on food and nutrition.

- ★ **BILLIE BURKE** provides the fun and entertainment
- ★ **FLASH FOOD NEWS** straight from the government in Washington
- ★ **TIMELY FOOD TIPS** by Alice White, Servel's food expert
- ★ **LOCAL FOOD NEWS** direct from Utility Company home service consultants



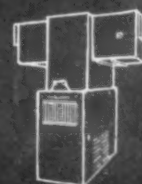
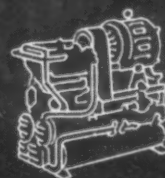
ORDNANCE MATERIALS such as shell cases, breech casings, and fire units for field ranges.



REFRIGERATORS for field and hospital are used to prepare and preserve life-saving serums.

SERVEL, Inc.

Makers of Servel Refrigerators operated by Gas, L-P Gas and Kerosene, Gas Water Heaters, Gas All-Year Air Conditioning Units, and Electric commercial Refrigeration and Air Conditioning Equipment.



Flat Rate Rather Than Hourly Charge Changes Dealer's Service Profit Picture

MONTGOMERY, Ala.—When S. P. Knighten, Norge dealer here, decided to go into the service field for the duration, the first thing he did was to look into reasons why other dealers weren't showing sufficient profit. Finding that the standard \$2 and \$2.50 per hour charge wasn't profitable in many cases, he decided upon a "flat rate" system which has shown around 35% more profit for 16 months.

Knighten, head of Knighten-Bailey Co., a furniture and appliance dealership which formerly sold around 600 new refrigerators a year and more than 200 reconditioned models, is applying the same kind of good "merchandising sense" to service work as he did to appliance sales. "It would never have been profitable to spend too long on any one sale" he explained "and neither is it profitable to have small jobs bring in small payment. We've been operating for more than a year and a half on a flat rate of \$2.50 for every call of any kind made outside the store, adding parts charges at list, and find that in this way we can show a steady profit much larger than we could accomplish otherwise."

Very seldom is it necessary to apply any other charge. Only exceptions are those more complex refrigeration repairs which keep a man busy for several hours, and necessitate a separate statement. Otherwise, a flat \$2.50 covers the whole thing,

and there are always enough minor calls to over balance the difficult job which costs more to handle.

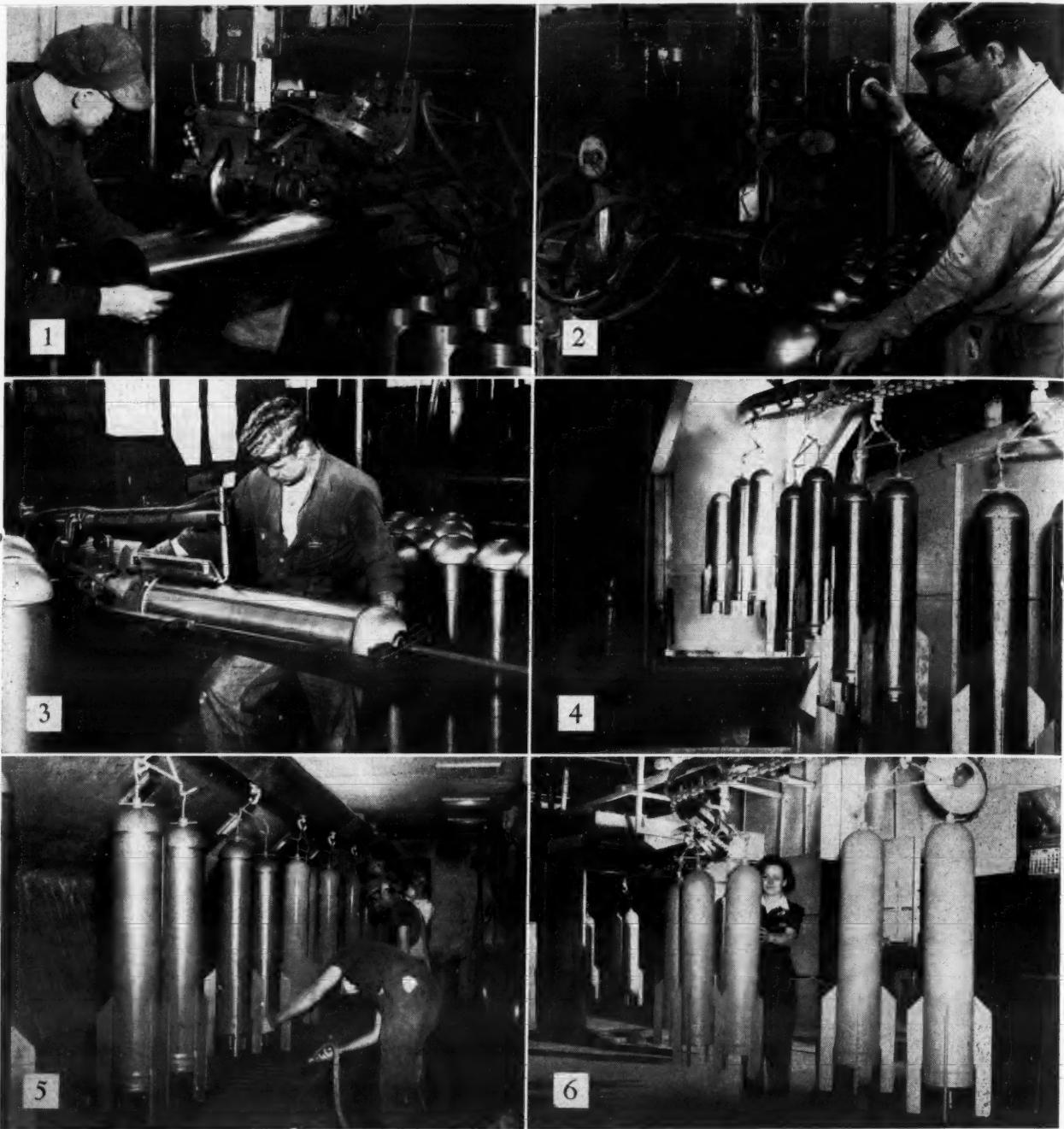
Knighten-Bailey shop is now eight times its former size, will handle any type of refrigerator, washing machine, radio or other major appliance, and is definitely "in the business."

It includes metalworking equipment sufficient to make parts when these cannot be obtained from a refrigeration supply jobber. Although its a paint shop, testing equipment and machine shop is ample enough to completely rebuild appliances, Knighten-Bailey does not solicit this work but simply offers it to any of the 2,500 sold customers who bought their appliances at the store.

Personnel, with the \$2.50 flat charge insuring a better profit, has been less worry. There are four veteran mechanics employed, one classified 4F by the army, two more than 50 years old, and a fourth who is head of a large family and considered not draft material.

"I believe that it's possible for service alone to carry the appliance dealer through the war" he explained. "However, only when it's concentrated on a market willing to pay well enough for good service, and when the dealer realizes the maximum amount from each call. We're doing both, and most important, keeping up a close contact with the customers we want to sell new appliances again after the war."

Midwest's Line Production of Aircraft Flares Wins Praise



1. Flare body being seam welded on one of Midwest's tube controlled electric seam welders. (Operator, Ernest Anderson).

2. Nose being seam welded to body. Seam welding is one of the fastest and most efficient methods of welding sheet metal. Midwest's welders can make an eight foot solid seam in one minute. (Operator, Glen Nelson).

3. Spot welding fins to body in special fixture assuring proper alignment and location of fins on flare. (Operator, Earl Plue).

4. Finished flare cases entering Bonderite ovens for cleaning and rust proofing. The flares move on a power driven conveyor.

5. Spraying flare cases in Midwest's

air conditioned, water washed spray booths. The flares receive two coats of high grade enamel and automatically move through controlled temperature ovens.

6. Painted flare cases come out of ovens on the automatic conveyor and receive careful inspection before moving into assembly departments. (Inspector, Nellie Houser).

Further Indications Given On Rationing of Stoves

WASHINGTON, D. C.—Under announced plans for rationing heating and cooking stoves this month, applicants for oil heating stoves in the fuel oil rationed area will also be questioned as to whether coal or wood burning equipment, or fuel for it, is available; whether there is a chimney or other means of venting; and whether any member of the household is physically able to operate coal or wood burning stove.

Applicants for gas cooking or heating stoves will be required to meet eligibility requirements of WPB, which place certain restrictions on the use of gas and on new gas connections.

Quotas of the six types of rationed stoves will be set up by OPA on the basis of stove supply figures to be determined by WPB. Regions, States, Districts and War Price and Rationing Board areas will be given quotas based on a careful study of their needs. The total of stoves of each type already in use in the area will be considered, as will types of fuels used, population shifts and climate.

Local rationing boards will limit issuance of purchase certificates to their respective quotas.

All dealers and wholesalers, after they register, will be assigned an inventory ceiling which will limit the number of stoves which he may have in stock at any one time. This ceiling will be determined on the basis of his 1941 sales and the present limited supply of stoves.

Specifically exempted from rationing will be electric stoves and heaters, water heaters, buckets-a-day or dome water heaters, salamander heaters, caboose stoves, floor furnaces, central heating equipment, and all heating and cooking equipment designed especially for commercial, industrial, agricultural, or institutional use. Sales of such equipment will continue to be controlled by the War Production Board orders.

Ingenious Methods Used by Cabinet Firm To Speed Important Offensive Item

GALESBURG, Ill.—How a company has followed through with the efficient "line production" methods it used in making refrigerators to produce an important piece of equipment for the Armed Services is demonstrated in the Midwest Mfg. Co.'s operations in the making of aircraft flares for Army ordnance.

The plant operations shown in the above photographs are the principal metal fabrication and welding operations, and the painting and Bonderizing steps. The assembly of the flares is another "line operation" of considerable interest, as there are more than 100 basic parts to be incorporated into the assembly, including a parachute and a glass cloth reflector shade. Midwest is thought to be unique in its installation of a power-driven line conveyor assembly system on these parachute flares.

ASSEMBLY OF FLARES

In awarding the Army-Navy "E" to Midwest, Col. John Slezak, Deputy Chief of the Chicago Ordnance District, declared:

"The parachute flare is a complicated item. It has more than 100 basic parts and you have made some very outstanding contributions toward developing some unique manufacturing methods now used not only by you but by others in the production of this item.

"Among these ingenious production processes are your carriage for handling candles, your suggestions for changing the spiral fuse and fixtures protecting the correct position of the shroud line, and the ingenious methods you have devised for winding the shock absorbers."

Midwest Mfg. Co. is also making several items for the Navy. It also has a production line going on household refrigerator cabinets, which are

being made on sub-contract for the Navy and the Maritime Commission. The company has made a number of changes in its production methods, which enables it to produce the household cabinets on a limited production basis for shipboard use.



Whenever any American food supplies spoil for lack of refrigeration... that's a nice break for the sons of the Rising Sun!

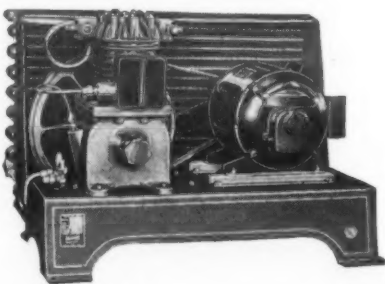
Why? Because today food is actually as vital as armaments to the United States and her Allies. Armies still fight on their stomachs... war-workers work on theirs... and all-important civilian health certainly depends on good food. Yes, we still have a good supply of food in our national larder... but not so much that we can let a bit of it spoil and go to waste.

We can't afford to give the Nipponese any kind of a break! That's why America has placed proper refrigeration in the "must" class... where it has always belonged! And, of course, Brunner equipment... foremost in the field for years...

has been wisely drafted to keep refrigeration requirements top-high for the duration!

The utter dependability of Brunner condensing units and refrigeration equipment is a comforting asset to all who handle America's food... in great quantities or small.

After the war, Brunner will still keep its standards... and yours... as lofty as it is humanly and mechanically possible.



BRUNNER MANUFACTURING CO., UTICA, N. Y., U. S. A.

VISOLEAK

SAVES time—SIMPLIFIES leak detection problems—CONSERVES refrigerant.

VISOLEAK reveals "hard to find" leaks of all refrigerants. Add 4 oz., plus an extra ounce for each 10 lbs. of refrigerant, to system.

4 ounces, \$1.00; 8 ounces, \$1.75. Pint, \$3; Quart, \$5; Gallon, \$16.

Buy from your jobber or write to

Western Thermal Equipment Co.
5141 Angeles Vista Blvd. - Los Angeles, Calif

"DAY & NIGHT"

A Complete line of Storage Type Water Coolers in accordance with Latest W. P. B. Regulations

DRINKING FOUNTAINS

NAVY-2 Models ARMY-NAVY-2 Models for Shipboard use for land use

CAFETERIA TYPE COOLERS

ARMY-NAVY 2 Models for Mess Halls

INSULATED STORAGE TANK TYPES

6 Models for Bakery Service - 3 Models for Film Processing

WRITE FOR LATEST DATA

COOLER DIVISION

DAY & NIGHT MFG. CO.

MONROVIA - CALIFORNIA

FACTORY REPRESENTATIVES

NEW YORK CHICAGO

A.C. Homeyer, 682 Bldg. - Marc Shantz, 565 Wash. Blvd.

ST. LOUIS DECATUR, GA.

R.H. Spangler, 3331 Market St. - E.E. Parker, 228 2nd St.

Refrigeration Activity In Palestine Now Waits For Official Action In All Matters

The British Thomson-Houston Co., Ltd.
Palestine Branch
Tel-Aviv

Editor:

It has been a pleasant surprise to have received a letter from you as I often think about you and, as a person who is playing an important part in the refrigeration industry, it is interesting to get your point of view. Your enthusiasm for so many things when you visited us often comes to mind, particularly upon passing the places of which you were constantly taking snap shots. We here have been in the war zone, have been bombed and at times, the enemy has been close to our gates. Fortunately the outlook now is so much brighter for which we owe so much to our Russian Allies. Those like myself find it difficult to restrain our optimism that the war will be won this year, even when so much still remains to be done before the barbarians are defeated.

Now to reply to the various points you raise in your letter. Perhaps before replying, it would be worth mentioning that all imports and releases for the sales of engineering equipment is controlled by the Controller of Heavy Industries. There is also a Controller of Light Industries for such items as cloth, clothing, light manufactured products and a Food Controller. The Controller of Heavy Industries has put the allocation of imports and general supervision in the hands of the Engineering Trade Association which was organized, approved, and controlled by the government. I happen to be the chairman of the organization and am therefore quite familiar with the various problems and it takes up considerable part of my time.

Now to answer your questions in order:

(1) All imports have to have the approval of the Controller, who in turn obtains the approval and allotment of shipping space from the Middle East Supply Centre in Cairo. Whatever tonnage is obtainable for each group is turned over to the E.T.A. and we divide same amongst the members, based upon the past record of each member and proof of obtaining same from their source of supply. Just at present we understand shipping space practically does not exist, so imports from the U. S. and the United Kingdom after all formalities and approval are very slow. Domestic refrigerators are entirely prohibited although most of the stock we had we sold directly to the forces, hospitals, government institutions, etc.

Commercial refrigeration equipment, after all approvals etc., somehow comes through very slowly. As an example, we will go into the following case. We received Import License 66895 dated 22-1-42 as per the enclosed copy (marked "A"). After endless delay, we received the enclosed cable from the I. G. E. (marked "B") and then after waiting the 10 weeks, we cabled them (marked "C") and then received their reply as per enclosed cable (marked "D") telling us that the prospects

were bad. This is where the order now stands after almost a year. At the best, assuming the merchandise would be ready for shipment now, we would not have it before the summer is here.

As to the estimates of our requirements, the E.T.A. have been working on the allocation of a limited tonnage, probably not more than 20 tons which is what the government hopes they might have in shipping space. You will note from the enclosed sheet (marked "X") how this quantity is being distributed and what we might have for the best part of this year.

(2) There is practically nothing manufactured here of spare parts and every spare part that is made up for some particular job is done in small shops at a prohibitive cost. There have been imports of Freon, Sulphur Dioxide and Metal Chloride refrigeration gases through the Imperial Chemical Industries. Some gas is also being manufactured here, Metal Chloride at L.P. 4. per kilo and Sulphur Dioxide at L.P. 1.500 per kilo, not very competitive when we imported gas at the beginning of the war at a delivered cost of L.P. 0.300 per kilo for Freon and L.P. 0.150 per kilo for SO₂.

(3) Due to the shortage of refrigeration equipment, spare parts, etc. the loss of refrigeration mechanics who have joined the forces is not too serious.

(4) From what we have said about the other points, it is obvious that there is very little business in this line. As most of the bigger firms closed up before the war, what is left are only small firms who attempt to do service at prices which are rather prohibitive.

(5) Frankly it is difficult to say as to what help you can be to us when the crux of the situation is shipping space.

I might add that I have spoken to some of the officers in the United States Army about releasing for essential requirements some of their equipment which they might have in excess. I expect to hear something from them in the near future. Much of such equipment could be put to good use to store food, for example potatoes, first by keeping the seed cool, and then by increasing temperatures before planting, and later on to store the potatoes after harvesting.

Anyway, I appreciate your interest and hope I have given you briefly an idea what is going on here in the refrigeration business.

Max Greenberg

Reducing Coupling Made For 'Saran' Plastic Tubing

CHICAGO. — Commercial Plastics Co. here has introduced the new "Saran" plastic reducing coupling.

It is, as far as known, the first plastic reducer to be put on the market. Its use is meant to increase the applications for tubing systems made of "Saran."

The "Saran" reducing coupling is an adaptation of the union coupling. Reducers are available with 1/8 inch reduction for all sizes of "Saran" tubing from 3/8 to 1/2 inch.

York Teaches Maintenance To Over 400 Navy Men

Refrigeration 'Expert' For Every Ship Is Aim

YORK, Pa.—Four hundred Naval students will graduate this year as experts in refrigeration and air conditioning from the York Ice Machinery Corp. school especially instituted to train young men for engineering responsibilities of this type aboard fighting craft. F. B. Kinley, York engineer and director of the school, has announced.

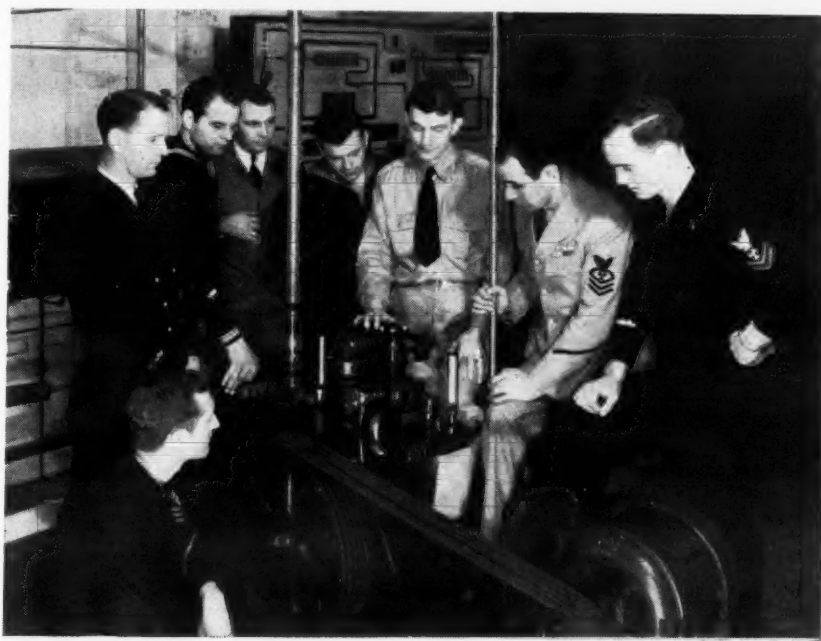
"Special training in refrigeration and air conditioning for Navy men has become necessary because of its uses in every type of fighting ship afloat," Kinley says.

York's school is equipped with the same kind of refrigeration machinery installed in ships, from which the students get a thorough practical training.

Each group of five students is instructed in shop work by a chief petty officer. From 250 to 300 hours of study are required for graduation, and they attend classes eight hours a day, five days a week.

In the 21 months that York's Naval School, the only one of its kind, has been in existence, 425 non-commissioned men or petty officers have graduated from six weeks courses. This turn-out is necessary so that, as Kinley says, "Every new Navy vessel from battleship to fleet tug, will carry at least one graduate of the school to supervise its complex refrigeration plant."

At sea, an air conditioning and refrigeration specialist is as im-



F. B. Kinley (third from right), director of York's school for Navy ratings or non-commissioned officers, is shown here explaining the workings of refrigerating compressor to a group. On submarines, air conditioning is nearly as vital as air supply itself to keep temperature and humidity down to point of human endurance.

portant as a gunner since, the director shows, no vessel is complete without cooling apparatus, apparatus which demands the servicing "know-how" of trained men.

Because modern submarines have more heat-producing machinery than ever before, air conditioning has become essential to keep the air at a temperature and humidity which hu-

mans can safely tolerate, the engineer explained. In spite of air conditioning, the temperature averages above 90° but the humidity is kept to reasonable level.

In addition to its relation to the actual operation of a ship, refrigeration is used at sea in fire control rooms, ready rooms for pilots and food storage.

Magnetic Inspection "Sees" the Invisible --



(One of a series of actual photographs taken in the Alco plant)

and Discovers Hidden Flaws!

War-time equipment cannot be allowed to fail, for a fighting man doesn't get a second chance if his equipment breaks down. So American industry takes many precautions to guard the quality of our tools of war.

One method used by Alco, and illustrated above is magnetic inspection of iron and steel parts. The part to be tested is placed within a magnetic field, then sprayed with ferrous oxide particles suspended in oil. The formation of these iron filings on the surface of the part indicates the molecular structure of the metal, from which hidden flaws can be detected.

This method reveals both surface and subsurface flaws in the metal, and guards against the possibility of subsequent failure of the part under stress.



Designers
and Manufacturers
of Engineered
Refrigerant
Controls

ALCO VALVE COMPANY—853 Kingsland Avenue, St. Louis, Missouri

Engineering Trade Association Tel-Aviv

Past Imports of Refrigeration

Commercial Refrigeration	Petigrow Carrier	B.T.H. G. E.	Levinson Westingh.	Pollak Kelvin.	Refrig. & Eng. Frigidaire
1937	25,600	7,861	5,460	1,500	23,000
1938	30,230	4,578	.072	1,500	
1939	14,500	3,952	1,835	3,500	
1940	14,010	12,140	.440	.335	
1941	7,320	7,279	3,593	.400	
1942	5,630	1,200	2,254	23,000
Total 6 yrs.					
In Tons ..	97,290	37,010	11,400	9,509	
Domestic Refrigeration	54.5%	20.8%	6.4%	5.4%	
1937	117,238	46,201	4,000	....
1938	91,643	6,714	6,600	23,000
1939	117,650	12,947	1,500	....
1940	73,377	1,220	....	....
1941	20,687	....	....	....
1942	1,286	....	....	....
Total 6 yrs.					23,000
In Tons ..	421,881	67,082	12,100	....
Domestic Refrigeration	84.2%	13.4%	2.4%	....
Total 6 yrs.					
Domestic ..	97,290	458,891	78,482	16,715	
Commercial	14.5%	68.0%	11.6%	2.5%	

Elliptical Egg May Be Sold In Frozen Form as Rectangle

LANSING, Mich. — A process for the successful freezing of eggs in a form convenient for use in the retail trade and in the home has been developed by two Michigan State College men, P. J. Schiabe and C. G. Card.

The eggs are frozen into rectangular bars, one whole egg being approximately a third of an inch thick and about 2½ inches square. Each egg is joined thinly to the next one, making it easy to count off the number of eggs desired. They must be defrosted for 10 minutes at room temperature before use.

MOISTURE'S MASTER

DAVISON'S

SILICA GEL

—USED IN ALL WELL-KNOWN DRYERS
YOUR JOBBER CAN SUPPLY YOU

REFRIGERATION PRODUCTS

fedders

BUFFALO, N. Y.

WOLVERINE

REFRIGERATION TUBE



WOLVERINE TUBE DIVISION
OF CALUMET AND HECLA
CONSOLIDATED COPPER COMPANY

1413 Central Ave. • Detroit, Michigan



CORDLEY

Electric

WATER COOLERS

ALL SIZES FOR
SHIPBOARD AND LAND USE
MEET GOVT. SPECS.

CORDLEY & HAYES, NEW YORK, N. Y.

Increase Ordered In Production of Pressure Gauges

WASHINGTON, D. C.—Production of dial pressure gauges and regulators will be increased from 15% to 25% by simplification methods in order to meet urgent demands, WPB makes known in announcing two additions, Schedules IV and V, to Order L-272 (production of control valves, liquid level controllers and pyrometers).

By raising production the Industrial Instrumentation Branch of the Radio and Radar Division of WPB will build a supply large enough to fulfill requirements of the Army and Navy, foreign industry, and domestic private needs, all of which are feeling the pinch of the control shortage, WPB states.

Schedule IV "regulates the sizes and pressure ranges in which gauges may be manufactured. Frills, such as the customer's name on the dial, and such special features as brass cases, polished rings, and inside case illumination are generally eliminated. A standard connection is designated for larger sizes."

Schedule V "specifies sizes and pressure classes for steel, iron, or bronze body regulators. It also specifies materials to be used for inner valves, seat rings, and for bolting material."

According to WPB, exceptions are allowed to meet requirements of the armed services, and where Schedule V conflicts with L-134 (limitation of chromium and nickel in industrial instruments), the less restrictive order will govern. L-272 applies only to new purchase orders.

A gauge, under order L-272, is any instrument which measures and indicates any pressure or vacuum (regardless of the units specified on the dial) by means of a bourdon spring or springs, a diaphragm or a bellows; or any complete element assembly of such instrument without a case; exclusively, however, of airborne gauges and any pressure regulator which consists of an enclosure containing a bourdon tube and a relay used for the control of an electric motor starter.

A regulator, under L-272, is any of the following types of self-operated valves used to control temperature or pressure (exclusive, however, of body assemblies subject to the provisions of Schedule I to limitation order L-272): (1) Self-operated temperature regulators. (2) Self-contained pilot-operated pressure regulators.

To the shipbuilding, rubber, high octane, and chemical warfare programs go most of the gauges.

7,000 Ton System Cools Aircraft Plant

'Blackout' Plant Would Heat Up To Over 110°F.

TULSA, Okla.—York Ice Machinery Corp. has installed one of the largest industrial air conditioning systems in the country at Douglas Aircraft Corp.'s new 21-acre "blackout" bomber plant, equipment having a capacity of 7,000 tons a day.

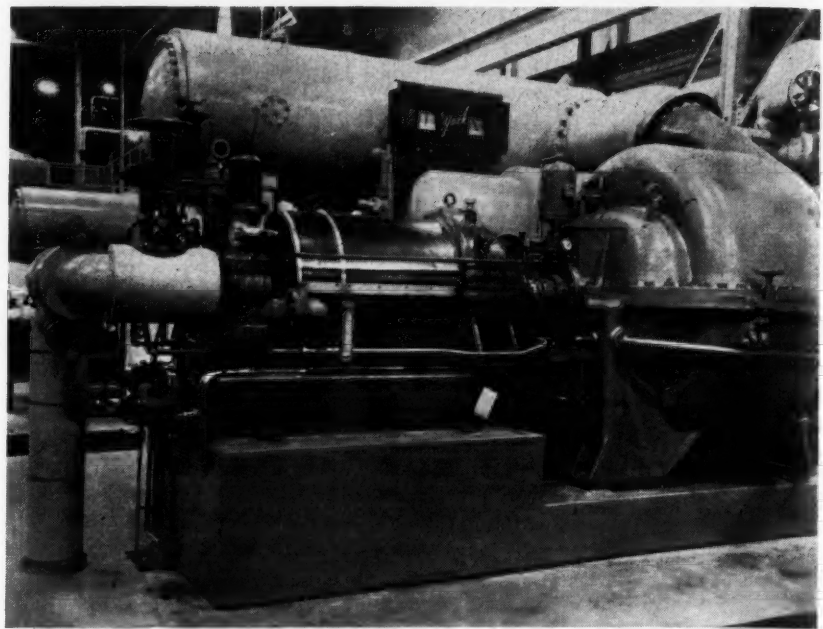
According to J. C. Tweedell, York field manager, the system functions to lower the temperature of more than 14,000 gallons of water a minute from 59° F. to 47° F. by seven turbo water cooling systems.

The cooled water is pumped through coils to all parts of the building. Air circulated over the coils by fans lowers the temperature to a constant 80° F. and the humidity to 50%.

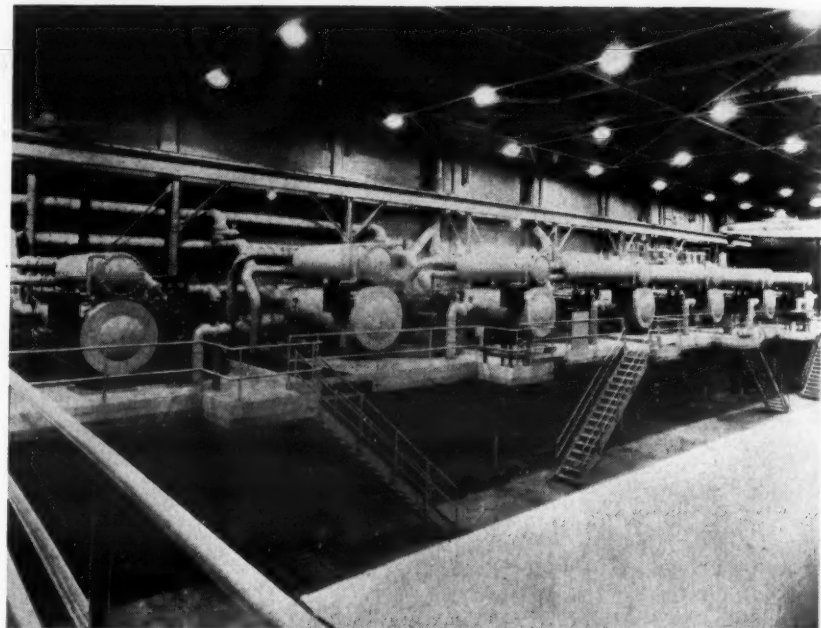
Air conditioning in the windowless blackout plant is a vital necessity to the maintenance of normal operations through the summer months, and in the winter, as well, to a large extent. The average temperature in Oklahoma during the summer is 80° F., rising sometimes as high as 100° F., but the machinery, lighting and hundreds of workers themselves in the new Douglas plant would push the temperature to an average of 110° F. and might go even higher, causing operations to cease altogether on unusually warm days.

Says Mr. Tweedell, "Proper temperature and humidity control for production in the Douglas plant is so important that engineers use instruments so sensitive that they can tell instantly if a single door is opened anywhere in the plant. The instruments do this by detecting even the slightest variation in the temperature of any zone in the building."

The seven turbines in the system use approximately 110,000 pounds of steam an hour, developing over 7,000 hp. for operation of the compressors. Turbines will work at 250 pounds initial pressure and exhaust out at 26 inches of vacuum. There are six compressors.



This York refrigeration unit includes a steam turbine, centrifugal compressor, and condenser. This unit is capable of producing 1,075 tons of refrigeration per day at the government-owned assembly plant in Tulsa, Okla., operated by Douglas Aircraft Co., Inc.



Machinery room for the battery of refrigeration units which produce 7,000 tons of refrigeration to cool the Douglas Aircraft Co. "blackout" plant in Tulsa.

Radio Tube Production Now on AA-1 Rating

WASHINGTON, D. C.—Radio tubes, the manufacture of which is restricted by limitation order L-76, will be produced to fill orders carrying a minimum rating of AA-1 instead of A-1-J, under the terms of an amendment of the order issued today by the War Production Board. Tubes listed in the order consist largely of obsolete types.

The higher rating brings L-76 into line with L-265, which permits the manufacture of electronic equipment to fill orders rated AA-4 or above. By requiring a higher rating for the manufacture of the tubes specified in L-76 than for the electronic equipment covered generally by L-265, loosening of the restrictions in L-76 is avoided.

Program Outlined For Simplification In Manufacture of Carbon Brushes For Motors

WASHINGTON, D. C.—A formal program of simplification of carbon brushes used in electric generators and motors was outlined at a meeting of the Carbon Brush Industry Advisory Committee with WPB officials and other government agencies in Washington.

The committee pointed out that the program when completed will be of considerable help to the armed forces in combat areas in overcoming replacement difficulties due to the large number of sizes and types of brushes

now in use.

The General Industrial Equipment Division and the Conservation Division, in cooperation with the National Bureau of Standards, have designated Dr. E. W. Ely of the Bureau to work out the details of the program as quickly as possible.

Members of the Committee reported that the increase in aircraft production and the additional demands for replacement material are reflected in the production schedules of carbon brush manufacturers.



Electric refrigerators must not fail now! Keep them in tip-top wartime condition with the aid of

ANSUL

Sulphur Dioxide-Methyl Chloride

- Same high quality.
- Quickly available in handy cylinders for servicemen's needs; Sulphur Dioxide comes in 25, 70 and 100-lb. cylinders...Methyl Chloride in 15, 40 and 60-lb. cylinders.
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AC-85



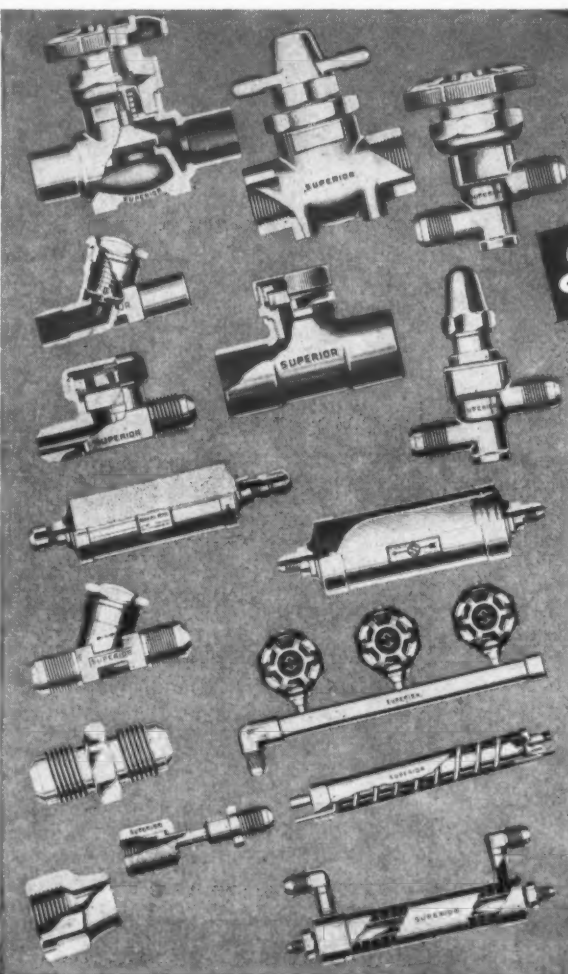
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Agents for Kinetic's "Freon-12"

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- ★ DIAPHRAGM PACKLESS VALVES
- ★ PACKED AND PRESSURE CUP VALVES
- ★ CHECK VALVES AND LIQUID INDICATORS
- ★ DEHYDRATORS AND FILTERS
- ★ MANIFOLDS AND HEAT-EXCHANGERS
- ★ FITTINGS AND ACCESSORIES

Even though we are working "round the clock" on implements of war, every passing month strengthens our conviction that refrigeration equipment is so vitally essential that we should continue to allocate an increasing percentage of our manufacturing facilities, personnel and planning to our refrigeration products.

THAT'S OUR POLICY... continuing to do even a better job of supplying, as promptly as conditions will permit, more valves, manifolds, heat exchangers, dehydrators, liquid indicators, fittings and accessories to manufacturers, jobbers, installers and service engineers.

Write for Copy of Catalog R-2

No. 86

SUPERIOR VALVE & FITTINGS CO.

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PITTSBURGH, PENNSYLVANIA

Refrigeration and Air Conditioning As a War Production Tool

By L. W. Clifford, Sales Development Section Supervisor,
Westinghouse Electric & Mfg. Co., East Springfield, Mass.

X-Ray Development Work

The use of X-ray photography in medical research and diagnosis is not new but the application of X-ray photography to industrial diagnosis and inspection is a comparatively recent development.

By the use of X-ray photography, industry has been able to find the answers to many problems which have caused expensive ultimate failures and costly rejects in production. For example, by studying the X-ray photograph of a casting, hidden defects such as blow holes or shrink holes can be seen and proper disposition of the defective casting made. Without this, many hours of machining time might have been spent on the casting before the flaw came to light and the rejection became necessary. Or, in assembly or actual use, failure might have occurred and the expense of replacement might have resulted.

Regardless of the care taken in the photography, unless the developing is done under carefully controlled conditions the finished negative may

be under or overdeveloped or it may be cloudy and lacking in detail. The time-temperature element in developing is therefore important and, if the developer temperature is held constant the time element can, likewise, be closely held and best results obtained.

A temperature of 65° F. is considered ideal for the developing and fixing tanks. Therefore by keeping these tanks surrounded by a water bath held at 65° F. that condition can be consistently maintained. This is usually accomplished by supplying water to the bath through an automatic mixing valve. In winter it may be necessary to mix artificially heated water with the tap water and in summer the tap water is tempered with water from an automatically controlled refrigerated water chilling system to hold the 65° F. temperature desired in the bath.

One example of this type of refrigeration application is at an aircraft engine plant where a condensing unit and water chiller were installed to supply chilled water for the X-ray developing tanks.

Lansing, Mich. Dealer Turns Hand To Variety of War Plant Installations

LANSING, Mich.—Speeding up production in this city's war plants is a big part of the job being performed by William E. (Bill) Anglin, manager of the Capitol Refrigeration Co. who, despite lack of the volume of equipment with which he once worked, is "doing his bit" on the home front.

Anglin has hooked up oil coolant machines on grinders that hone large-bore guns at the Olds Motor Works, currently turning out cannon for fighter planes and tanks.

The Lansing refrigeration man has also introduced refrigeration in spot welding operations in local plants. He points out that welders formerly had to remove welding points after approximately every 20 operations, but, with the innovation of refrigeration on these points they will now go successfully for 100 operations or more.

The problem of idle aluminum plane rivets has also been solved for a plant in this area by Anglin. The plant's foremen were somewhat

worried by reduction of tensile strength during such times as the rivets occasionally accumulated.

"Industrial chillers" proved to be the refrigeration man's answer to the foreman's prayer in this case. The rivets are now kept in "chillers" with temperatures ranging from -40° F. to -70°. They remain there up to within a few hours prior to being used. Microscopic tests, incidentally, have shown the wisdom of refrigerating the rivets.

On the other end of the temperature scale, bearings are placed in cast iron blocks at a temperature of PLUS 380° F. A slow process under unrefrigerated conditions, Anglin has speeded up essential production here by providing chillers in which the bearings are retained until ready for use. When that time comes, they are removed from their frigid containers and placed in the hot blocks. The marked differences of temperature "make for a good type fit," Anglin relates.

Use of Quick-Frozen Fruits In Ice Cream Booms as Regular Ingredients Are Limited

Strawberry Freezing Operations In West Take Big Jump

FRESNO, Calif.—Curtailed use of dairy products normally used in manufacturing ice cream and purees has caused a new quick-freezing industry to spring up in Central California, it was disclosed by D. N. Carlsen, manager of the Fresno plant of the Borden Co., who forecast almost unlimited new outlets for strawberries, which are processed and frozen with special equipment for use in the manufacture of sherbets, ices and strawberry ice cream.

The frozen berry product which used to comprise but 15% of sherbets, ice cream and ices, now makes up about 30% of these commodities, it was explained. As a result, the Borden Co. has purchased more than 800,000 pounds of strawberries from growers in the Fresno district for use in the Fresno plant alone. Recent prices paid growers for berries used in the freezing plant have averaged 20 cents per pound, the highest on record.

The berries are first placed in a tank containing a solution to remove sand and sterilize them and then they are passed through other washes to remove any remaining sand. Special care is necessary in this operation to guard against damage to freezer blades which it is practically impossible to replace.

The fruit is then flushed with a screen bottom scoop and passed into a stainless steel device, so regulated

by pressure as to throw out stems or any green or white portions. The red pulp and juice ultimately retained is packed into 30-pound containers with an addition of 20% of sugar and placed in zero storage.

Shipments to eastern states from the Fresno plant are made in special refrigerator cars in which a 0° F. temperature is maintained enroute by the addition of salt to the ice.

Machinery for the washing and various other operations in the Fresno plant were developed and built in Fresno under the supervision of the plant's production manager, H. B. Pogue, who has also developed equipment for the cold-packing of nectarines.

Sandy Pratt Has News File For Visitors

SAN FRANCISCO—A complete file of issues of AIR CONDITIONING & REFRIGERATION NEWS is now available at the California Refrigerator Co., refrigeration supply jobber here, according to Clarence F. (Sandy) Pratt, president.

This file will be useful for those who have need for reference to past issues and to travelers from the East who want to keep up on industry news, Mr. Pratt believes.

PURO ELECTRIC WATER COOLERS

Different models available for the various requirements of government agencies and war production plants.

PURO FILTER CORP.
440 Lafayette St., New York

DRINKING WATER SPECIALISTS FOR 40 YEARS.



REFRIGERATION PARTS NEEDED

● Idle and surplus inventories of refrigeration parts can now be put to essential use in helping to maintain the nation's huge investment in refrigeration.

We buy outright for cash, usable parts for distribution to over 20,000 refrigeration service-men customers. Let us put your idle inventories to good use—you will then be helping conserve scarce and precious materials.

The Harry Alter Co.

1728 So. Michigan Ave.
Chicago, Illinois



To G-E Distributors and Contractors: Here's the latest G-E ad in the series that's telling your prospects—in many manufacturing fields—how air conditioning and industrial refrigeration can help them do their war jobs better, faster. Appearing in Time, Newsweek, Business Week and 20 industrial publications, this campaign lays a firm foundation on which you can build sales!

DEATH LEAVES A FINGERPRINT

Probably it was hot and humid in the assembly room... that day when warm, perspiring fingers accidentally touched a tiny, needle-pointed shaft. But the fingerprint remained... acid, corrosive...

A saboteur—this accidental fingerprint? Yes—for on a later day that tiny part, weakened by corrosion, may fail—in a submarine depth-gauge, an airplane altimeter, or in any of scores of delicate military

instruments. And just because of a fingerprint, a man may die.

ANOTHER WAR JOB FOR AIR CONDITIONING. Where precision instruments are made, on which men's lives depend, air conditioning reduces perspiration... filters out dust... helps speed output.

And this is but one example of how General Electric air conditioning and industrial refrigeration may serve the

war effort. To meet the exacting requirements of these wartime applications, General Electric is producing equipment that is highly efficient... flexible... compact.

When peace comes, this improved air conditioning equipment — by General Electric—will be available to all.

General Electric Co., Air Conditioning and Commercial Refrigeration Dept., Division 436, Bloomfield, N. J.

Air Conditioning by
GENERAL ELECTRIC

Marine Refrigeration Has Had a Great Growth In 2 Years

SYRACUSE, N. Y.—Marine refrigeration is playing a vital role in the war effort not only by making possible the transportation of large quantities of perishable foodstuffs over long distances but also in providing better food on warships and merchant vessels, points out R. L. Tomlinson, manager of the marine department of Carrier Corp.

Larger quantities of ship refrigeration have been and are being installed in the present war than were even dreamed of during World War I, Mr. Tomlinson stated. The result, he said, can be seen in the quantity and quality of fresh food that is today available to American troops overseas and in the balanced diet that is provided for American seamen wherever they may be.

Some idea of the huge quantities of refrigeration equipment being installed on merchant vessels alone may be seen in the fact that Carrier has produced during the past, or now has contracts for, refrigeration equipment on many hundreds of vessels. These include Liberty ships, destroyer escorts, tankers, meat carriers, miscellaneous cargo ships and sea going tugs.

Equipment being installed on them ranges from large 180 ton refrigeration machines designed to refrigerate a whole meat carrier to installations for refrigerating ships' stores and for producing ice. Assembly rooms of training ships have been air conditioned to provide ideal conditions for training sessions extending over long periods of time.

'Comfort' Put First With Locker Clients

TULARE, Calif.—When operator Stanley Smith of the Food Bank Frozen Lockers Co. here found that some of his women customers were complaining about colds and chills caused by spending several moments in his locker rooms, he was up to the issue—by immediately providing comfortable warm coats and leather gloves which are available to any renter who wishes them.

"One problem of almost every locker plant which most operators never think about is the fact that so many thinly clad women object to entering the low-temperature rooms," Smith explained. "Actually, when I began considering the matter I found that dozens of my customers were carrying jackets and cotton gloves with them in their automobiles on every visit to the plant, and several husbands told me that their wives refused to go into the locker room altogether."

He first attempted a solution in the form of a colored attendant who would make all locker visits for customers. However, with defense employment taking up all available help, it soon became impossible to obtain anyone for the job. Ultimately, Smith adopted the idea of furnishing coats and gloves, and has found this works out perfectly.

The coats are canvas drill types with warm fleece lining, which cost Smith approximately \$5 each, and the gloves are rough leather types at about 60 cents. In addition to keeping the wearer warm, they prevent soiling of clothing and are kept on hooks outside the locker room.

Complete Text of L-38 As Amended May 20

Editor's Note: Many amendments to Limitation Order L-38 covering commercial and industrial refrigeration and air conditioning equipment were put into effect Thursday, May 20. Since AIR CONDITIONING & REFRIGERATION NEWS goes to press on Thursday night, it was barely possible to get into the May 24 issue the text of the amended paragraphs.

Realizing that the publication of the amended paragraphs by themselves make the order difficult to follow, the NEWS is this week publishing the complete text of Limitation Order L-38 as amended May 20.

Part 1071—INDUSTRIAL AND COMMERCIAL REFRIGERATION AND AIR CONDITIONING MACHINERY AND EQUIPMENT

(General Limitation Order L-38 as amended May 20, 1943.)

The fulfillment of requirements for the defense of the United States has created a shortage in the supply of steel, copper, and other materials for defense, for private account and for export; and the following order is deemed necessary and appropriate in the public interest and to promote the national defense:

§ 1071.1 General Limitation Order L-38—(a) Definitions. For the purpose of this order:

(1) "System" means any refrigerating or air conditioning system, consisting of an assembly or combination of machinery, equipment, or other apparatus designed primarily to lower the temperature of, or remove water vapor from gaseous, liquid, or solid matter, directly or indirectly, by mechanical, chemical or physical means. The term shall not include a domestic mechanical refrigerator as defined in paragraph (a) (10), a domestic ice refrigerator as defined in paragraph (a) (11), a farm milk cooler as defined in paragraph (a) (12), or heat exchanger equipment as defined in paragraph (a) (15) of this order.

(2) "Parts" means any parts, assemblies of parts, equipment, insulated enclosures and cold storage doors, accessories, implements or devices designed or intended for incorporation or use in a system or for installation therewith in causing it to perform its functions, except the following materials: Liquid or gaseous refrigerants; oil or other lubricants; cleaning fluids or other solvents; anti-freeze fluids; paints, enamels, varnishes, thinners and seam fillers; wax polishes and rust preventives; soldering and brazing fluxes and welding rods; non-metallic filters; belts and belting; gaskets; packing; insulating materials necessary for maintenance and repair service or to partition an existing enclosure; small hardware, such as nuts, bolts, washers, screws and cotter pins; (although nothing in this order relieves any person from complying with any provision in any other order of the War Production Board which may be applicable to any of such excepted materials).

(3) "New," when applied to any system

or part, means a system or part that has never been sold and delivered to any person acquiring it for use; "used" means any system or part which has been sold and delivered to any person acquiring the same for use (regardless of whether or not it has subsequently been reconditioned or redesigned); and "reconditioned" means any system or part which has been repaired, rebuilt or redesigned using any new component parts.

(4) "Authorized order" means any order for the delivery of a system or parts, which the War Production Board has authorized on Form PD-830 or PD-831 pursuant to paragraph (c) of this order. The term shall also include any order for such a system or parts which has been placed with and accepted by a dealer, producer or other person prior to April 6, 1943, if such order bears a preference rating of A-1-c or higher (or if the acceptance and delivery of such order was specifically authorized or directed by the War Production Board without any preference rating having been assigned thereto, prior to April 6, 1943): **Provided**, That the system or parts can be and are produced and delivered in accordance with the provisions of Orders M-9-c and M-126 applicable thereto immediately prior to April 6, 1943.

(5) "Person" means any individual, partnership, association, business trust, corporation, governmental corporation or agency, or any organized group of persons, whether incorporated or not.

(6) "Producer" means any person to the extent that he is engaged in the manufacture, fabrication, or assembly of systems or parts, or industrial type extended surface heating equipment, or industrial type humidifying equipment. The term shall not include any sales or distribution outlet of a producer.

(7) "Dealer" means any person, other than a producer, engaged in the business of selling or distributing new, used, or reconditioned systems or parts or industrial type extended surface heating equipment, or industrial type humidifying equipment, whether at wholesale, retail, or otherwise. The term includes any sales or distribution outlet of a producer.

(8) "Maintenance and repair service" means the use, whenever necessary, of the minimum amount of parts and other material required for (i) keeping any system in effective and safe working condition, or (ii) restoring a system to effective and safe working condition when it has become unfit for service by normal wear and tear, unavoidable damage, or failure of any parts. The term includes the necessary replacement of any defective component parts of the high side, low side or insulated enclosure, if such parts either cannot be repaired, or consist of a sub-assembly which is normally exchanged in assembled form in order to permit immediate restoration of the system to service and subsequent shop reconditioning of such sub-assembly (such as controls, regulators, coils, motors, sealed units, and compressors and condensers). It shall not, however, include any enlargement of the size or capacity of the system or any modernization or improvement of its design, or the replacement of the entire high side or condensing unit with or without motor or condenser (except in sealed unit types), or the entire low side, or the entire insulated enclosure.

(9) "Deliver" means: (i) to transfer physical possession, title, or ownership; or (ii) to install for use (but not including a temporary installation solely for the purpose of testing the system or part, or the moving of an installed system from one point on the owner's property to another); or (iii) to place in the hands of any carrier or otherwise in transit for transfer of possession to another person (regardless of whether such transfer, installation, or shipment is for the purpose of sale, trade, loan, lease, or other type of transaction).

(10) "Domestic mechanical refrigerator" means any refrigerator for household use which operates either by compression or absorption and which has a net capacity of 16 cubic feet or less (National Electrical Manufacturers Association rating), but does not include any low temperature mechanical refrigerator designed for the storage of frozen foods or for the quick freezing of food where the low temperature compartment customarily operates at a temperature of not higher than 15° above zero Fahrenheit and contains 75% or more of the total refrigerating space in the refrigerator.

(11) "Domestic Ice Refrigerator" means any non-mechanical ice chest or ice box for home use.

(12) "Farm milk cooler" means any immersion (drop-in) type or surface (tubular) type milk cooler for use on a farm, and includes any system or parts which have been installed in any such cooler, or acquired pursuant to an "authorized order" (as defined in paragraph (a) (4)) by a manufacturer of farm milk coolers for installation in such coolers. The term shall not include any new refrigeration evaporator coils, or refrigeration condensing units prior to actual acquisition thereof by such a manufacturer.

(13) "Industrial type extended surface heating equipment" means any apparatus employing a heat transfer element and designed primarily to increase the temperature of gaseous matter, in connection with the operation of any refrigerating or air conditioning system.

(14) "Industrial type humidifying equipment" means any apparatus designed primarily to add water vapor to gaseous matter, in connection with the operation of any industrial or commercial refrigerating or air conditioning system, or for any purpose other than the health or comfort of persons.

(15) "Heat exchanger equipment" means an assembly, bundle, or nest of bare or finned tubes installed in a shell or pressure vessel, and designed for the transfer or exchange of heat between two or more fluids (liquids, gases, or vapors), without the use, as a refrigerant, of (i) ammonia, carbon dioxide, methyl chloride, sulphur dioxide, or chlorinated hydrocarbon refrigerants (trichloromonofluoromethane, dichlorodifluoromethane, dichloromonoethane, trichlorotrifluoroethane, and dichlorotetrafluoroethane), or (ii) brine or water which has been cooled by the use of ice or any of such refrigerants.

(16) "Owned," when applied to any materials means such materials as were in the possession or control of the designated person, or in transit to him, on the date indicated.

(17) "Any person acquiring the same for use" shall include the owner, lessee, or other person who purchases or otherwise secures delivery of any systems, parts, or other equipment covered by this order, for use; but does not include a dealer or producer acquiring systems, parts or equipment for resale, and reselling the same.

(18) "For direct use by the Army, Navy, Maritime Commission or War Shipping Administration" means for direct use by the regular personnel or regular employees of such an agency only, but regardless of whether delivery is made by the producer or dealer directly to such an agency, or through or to an intermediate dealer or contractor. The term does not mean for use in any privately operated plant or shipyard financed by, or controlled by, any of such agencies, or operated on a cost-plus-fixed-fee basis.

(b) **Restrictions on deliveries.**—(1) **Parts for maintenance and repair service.** (i) No dealer or producer shall deliver any new or reconditioned parts to any person acquiring the same for use, and no such person shall accept delivery of any such parts, unless the parts are delivered.

(a) For use in maintenance and repair service and to fill a purchase order bearing a preference rating of AA-5 or higher, or

(b) By an agency authorized to apply ratings under Preference Rating Order P-126, in performing the service provided for by said order, or

(c) To fill an "authorized order," or (d) For direct use by the Army, Navy, Maritime Commission, or War Shipping Administration, including orders for any Army or Marine Corps post exchange or any U. S. Navy ships service department; and the parts replaced shall be disposed of in accordance with paragraph (e) of this order, if made of metal.

(ii) Any producer or dealer receiving an order, bearing a preference rating of AA-5 or higher, for parts which are permitted to be delivered only for use in "maintenance and repair service," may deliver such parts to a person acquiring the same for use, unless the producer or dealer knows, or has reason to believe, that such parts will not be used for "maintenance and repair service."

(2) **Other Equipment.** (i) **List A items.** Any dealer, producer, or other person may deliver (unrestricted by this order) and any person may accept delivery of, any new or used item of equipment of any kind or type included on List A (made a part of this order as amended from time to time), or any new or used parts acquired by such dealer, producer, or other person prior to May 15, 1942 for use in any such equipment owned by him on May 15, 1942, except a new refrigeration condensing unit rated at more than ½ hp. and designed for remote installation.

(ii) **List B, Part I, items.** No dealer or producer shall deliver any new item of equipment of any kinds included on List B, Part I, (made a part of this order as amended from time to time) to any person acquiring the same for use, except pursuant to an "authorized order" to an agency or other person designated on said list; and no person shall accept delivery of any such item of equipment, except such an agency or other person receiving delivery pursuant to an "authorized order."

(iii) **List B, Part II, items.** No dealer or producer shall deliver any new item of equipment of any kinds included on List B, Part II (made a part of this order as amended from time to time) to any person acquiring the same for use, except to an agency designated on said list; and no person shall accept delivery of any such item of equipment except such an agency.

(iv) **Items for farm milk coolers.** No dealer or producer shall deliver any new refrigeration evaporator coils or refrigeration condensing units for use in farm milk coolers, to a manufacturer of such coolers or to any other person, except pursuant to an "authorized order." The delivery of any such refrigeration evaporator coils or refrigeration condensing units acquired pursuant to an "authorized order" by such a manufacturer, or owned by him on April 6, 1943, or of any farm milk coolers in which any such coils or units have been installed, shall not be restricted by the terms of this order.

(v) **Items exclusive of List A and List B items and farm milk coolers.** No dealer, producer or other person shall deliver any new system of any kind or type not referred to under the preceding subdivisions (i), (ii), (iii), or (iv), or any used system rated at 3 hp. or more or having a rated capacity of three tons or more (American Society of Refrigerating Engineers Specifications), to any person acquiring the same for use, except pursuant to an "authorized order," or for direct use by the Army, Navy, Maritime Commission, or War Shipping Administration.

(vi) **Parts not for maintenance and repair service.** No dealer, producer or other person shall deliver, to any person acquiring the same for use, and no such person shall accept delivery of, any of the following, except pursuant to an "authorized order," or for direct use by the Army, Navy, Maritime Commission, or War Shipping Administration:

(a) New parts of any kind or size, if not delivered in accordance with paragraph (b) (1) (i) above; or any

(b) Used high side, compressor, turbo blower, condenser, low side, or evaporator, designed for use with a system rated at 3 h.p. or more or having a rated capacity of three tons or more (American Society of Refrigerating Engineers Specifications), if not delivered in accordance with paragraph (b) (1) (i) above.

(vii) **Heating or humidifying equipment.** No dealer or producer shall deliver any new "industrial type extended surface heating equipment" or any "industrial type humidifying equipment" to any person acquiring the same for use, except pursuant to an "authorized order," or for direct use by the Army, Navy, Maritime Commission, or War Shipping Administration.

(viii) **List C.** No purchase order for any equipment referred to under subparagraphs (v), (vi), or (vii) above will be authorized if such equipment is not to be used for a purpose described on List C (made a part of this order) as amended from time to time.

(ix) **Report of orders placed under (iii), (v), (vi), and (vii) for Army, etc.** On or before the 10th day of April, 1943, and the 10th day of each succeeding calendar month, each producer shall file with the War Production Board a letter, in triplicate, showing all orders accepted by him

during the preceding calendar month for any new system referred to under subparagraph (iii) above, or any new equipment referred to under subparagraph (v) above, or any new major part (high side, compressor, turbo blower, condenser, insulated enclosure, low side, or evaporator), of any size, referred to under subdivision (vi) above, or any new equipment referred to under subdivision (vii) above, and delivered, or to be delivered, to or for the account of (and for direct use by) the Army, Navy, Maritime Commission, or War Shipping Administration. Such letter shall also state the name of the purchasing agency, the name and address of the purchasing officer, the date of acceptance of such order, the required delivery date, and a brief description of the quantity, type, and size of the equipment ordered and the purchaser's order number. Copies of such purchase orders may be filed with such letter to furnish such detailed information, in lieu of incorporating the same therein. (This reporting requirement approved by the Bureau of the Budget in accordance with Federal Reports Act of 1942.)

(x) As used in this subparagraph (b) (2), the words "Army" and "Navy," shall not include any Army or Marine Corps Post Exchange or any Navy Ships Service Department.

(c) **Method of securing authorization for an "authorized order."**

(1) (i) Application for the authorization required to make any purchase order an "authorized order" shall be made to the War Production Board by the person seeking to place such order, on Form PD-830 if the system or parts to be purchased are required for use in any cold storage warehouse, industrial or commercial ice plant, frozen food locker plant, food processing plant (except a dairy or ice cream plant requiring equipment having a capacity of five (5) hp. or five (5) tons (ASRE specifications) or less), industrial processing of products other than food, refrigerated railroad car, truck, or ship, or any air conditioning installation of any size; and on Form PD-831, if for any other purpose.

(ii) The filing of such application shall relieve the applicant from the necessity of filing the application form required to obtain authorization for the placing or acceptance of a purchase order for any component part subject to Orders L-100, L-163, or L-172, to be included in the system covered by said application, and the inclusion of such component part in the production or delivery schedule of the manufacturer thereof.

(iii) If the system, parts, or other equipment required are for use in construction work subject to the terms of Conservation Order L-41, as amended from time to time, the application on Form PD-830 or PD-831 shall include only such materials as are necessary for installation of the system, parts, or other equipment covered thereby.

(2) The War Production Board may authorize any such order on Form PD-830 or PD-831 upon such conditions, if any, as it shall specify (except as to dates of production and delivery), and may assign a preference rating thereto or rerate any such order. Such authorization will be issued to the applicant upon one of said forms, and will be accompanied by separate authorizations for each of the component parts included therein if required under Orders L-100, L-163, and L-172 of the War Production Board for the purposes specified, which shall be transmitted by the purchaser to his supplier, and by the latter to his suppliers of component parts when necessary for delivery of such component parts.

Nothing in this order, however, shall relieve any manufacturer from filing any periodical reports of production or delivery schedules or other operations, or from complying with any requirement or direction which may be issued by the War Production Board, as to scheduling or rescheduling of production or deliveries of any such component parts, as required by any other order of the War Production Board including Orders L-100, L-163, and L-172, or any specific directions from the War Production Board.

(3) Deliveries of any component parts covered by any such accompanying authorizations shall be made in accordance with the terms of such authorizations and

(Continued on Page 21, Column 1)



Spoilage is Sabotage!

Our meat supply is critically short of the urgent needs of our army, civilians and allies. Refrigerating equipment must function efficiently to prevent spoilage, which really amounts to sabotage of a vital war necessity.

Your dependable ally in maintaining efficient refrigeration is Penn's Avrgaire control, designed for all "above-freezing" applications in walk-in coolers and reach-in refrigerators. Avrgaire main-

tains uniform temperatures and correct humidity, to prevent spoilage or shrinkage...delays defrosting when the box is under an exceptional load until proper cooling temperature is restored.

Penn is prepared to supply Avrgaire and other refrigeration controls to meet the need for food preservation, under established priority rules. Penn Electric Switch Co., Gosben, Indiana. In Canada: Powerlite Devices, Inc., Toronto, Ont.

Penn

AUTOMATIC CONTROLS
FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Immediate delivery



OF METHYL CHLORIDE

WE expect to be able to supply the current requirements of the refrigeration industry for Methyl Chloride, subject to the regulations of the War Production Board. Order what you need but please do not stock up unnecessarily.

Electrochemicals Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

Important! Don't let idle cylinders hold up supplies now available. Look through your stocks and warehouses for any empty cylinders, or cylinders which can be emptied...and return them promptly.



METHYL CHLORIDE

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Text of Refrigeration Order L-38 With Amendments of May 20

(Continued from Page 20, Column 5)

the War Production Board Orders pursuant to which they are respectively issued.

(4) Any person who has received an authorization from the War Production Board on Form PD-830 or Form PD-831 in accordance with the preceding provisions of this paragraph (c) may apply any preference rating assigned on said form to any order or orders placed by him, with his supplier or suppliers, for the system or parts which he is there by authorized to purchase and acquire, by endorsing on, or attaching to, each contract or purchase order placed by him to which the rating is to be applied, a certification in substantially the following form signed manually, or as provided in Priorities Regulation No. 7 (Section 944.27) by an official duly authorized for such purpose:

Certification

The undersigned purchaser hereby represents to the seller and to the War Production Board that he is entitled to apply the preference rating indicated opposite the items shown on this purchase order, and that such application is in accordance with Priorities Regulation No. 3, as amended, and in accordance with an authorization on Form PD-830 or PD-831, Serial number....., which is subject to the following conditions, if any:

(Specify conditions; or if none, state "none".)

Name of Purchaser Address of Purchaser By..... Date

Signature of duly authorized official

Any supplier receiving an order bearing such certificate shall be entitled to rely thereon and may fill the order, unless he knows or has reason to believe that the certificate contains any false or inaccurate statement; and may extend the rating (without designating the serial number of the authorization form, or the conditions contained therein) in the manner provided in Priorities Regulation No. 3. Subsequent extensions may be made in the same manner.

(d) Restrictions on production.

(1) Types and uses prohibited altogether.

(i) **List D items.** No producer shall manufacture any new system or equipment of any kind named or described on List D (made a part of this order) as amended from time to time, for delivery to any person or for any purpose.

(ii) **List E items.** No producer shall manufacture any new system or equipment of any kind named or described on List E (made a part of this order) as amended from time to time, except for direct use by an agency or person designated on said List and for a purpose (if any) designated thereon.

(iii) **Reach-in refrigerators and walk-in coolers.** No producer of reach-in refrigerators or prefabricated sectional walk-in coolers shall manufacture any such refrigerators or coolers for any purpose other than for direct use by the Army, Navy, Maritime Commission, or War Shipping Administration, unless manufactured entirely from parts or materials owned by such producer on April 6, 1943; except, however, that any such producer may acquire from another such producer any such parts or materials owned by the latter on such date, and may use such acquired parts or materials in such manufacture. As used in this subparagraph (iii), the words "Army" and "Navy" shall not include any Army or Marine Corps Post Exchange or any Navy Ships Service Departments.

(2) **Production for permitted types or uses.** No producer shall manufacture a greater quantity of any type of system or parts for assembly into new systems (exclusive of replacement parts described under (3) below), production of which is permitted under the terms of this order, than the following:

During the calendar quarter beginning April 1, 1943, or during any succeeding calendar quarter, no producer shall manufacture a quantity of any system or part in excess of the greater of the two quantities of such system or part determined as indicated in (i) or (ii) below:

(i) The number of such new item for which the producer has on hand unfilled orders bearing a rating of AA-5 or higher; or

(ii) The number of such new item delivered on orders bearing a rating of A-1-j or higher during the next preceding calendar quarter.

(3) Replacement parts; protection of production schedules.

(i) No producer shall manufacture replacement parts (for the repair or maintenance of systems) in such quantities that his production thereof will result in his acquiring an inventory of such parts in excess of his average monthly inventory of similar parts during the months of January, February, and March, 1941.

(ii) Producers of replacement parts under the terms of this order may, notwithstanding the provisions of Priorities Regulation No. 1 (Part 944), schedule their production of replacement parts as if the orders therefor bore a rating of AA-1, but subject to any specific directions which may be issued by the War Production Board as to the scheduling of production or deliveries of any such parts as required by any other order of the War Production Board, or by any specific direction from the War Production Board.

(4) **Restrictions on deliveries to producers.** No person engaged in the production or sale of component parts or sub-assemblies designed for incorporation in any larger assembly or system shall knowingly deliver any such parts or sub-assemblies to any producer for further fabrication or assembly into larger assemblies or systems if such fabrication or assembly by such producer is prohibited by the terms of this order; and no producer shall accept delivery of any such parts ordered for a use which has been prohibited by the terms of this order

unless such parts of sub-assemblies are to be used for a purpose which is not prohibited.

(e) **Required utilization of replaced parts.** (1) When any part is delivered in accordance with paragraph (b) (1) of this order to any person acquiring the same for use, such person shall dispose of the replaced used part, if it is made of metal, through regular scrap channels, within thirty (30) days after installation of the newly installed part, unless he returns the same to his supplier (for such reconditioning or disposition as the latter may make). All such replaced parts thus obtained by a dealer or producer during any calendar quarter shall either be repaired and replaced in his inventory, or returned to his supplier of new parts, or disposed of through regular scrap channels, during or within thirty (30) days after the end of such quarter: **Provided, however,** That no block tin pipe shall be replaced unless an equal quantity thereof is returned to the fabricator.

(2) The provisions of the preceding subparagraph (1) shall not apply:

(i) Where parts are delivered for installation in any system located outside of the United States at the time of such delivery; or

(ii) Where the system requiring repair is being used directly by the Army, Navy, Maritime Commission, or War Shipping Administration; or

(iii) Where the system requiring repair is owned by any Federal, State, or local governmental agency, bureau, department, or political subdivision which is prohibited by law from disposing of such replaced parts in the manner prescribed under the preceding paragraph (1).

(f) Filing of report of inventories.

(1) On or before the 15 day of April, 1943, every producer shall file a report on Form PD-829 showing such producer's inventories and such other information as shall be required on said form.

(g) Exemptions.

(1) Certain specific transactions.

(i) The following shall be exempted from the terms of subparagraph (b) (1) (i):

The repair, by (a) a bottler of carbonated beverages, or (b) a manufacturer of ice cream for resale, or (c) a person engaged in the business of leasing mechanical or non-mechanical drinking water coolers, or (d) any other person owning (refrigerating) systems of any type included on List A or List B and used by such owners or his lessees for dispensing food or beverages at retail, of any such systems owned by such person, using new parts owned by him on May 15, 1942, or used parts obtained from the dismantling of any such used system owned by such person; but no parts shall be delivered by any dealer or producer to any such person for the repair of any such system except for "emergency repair service" thereto;

(ii) The following shall be exempted from the terms of subparagraph (b) (2):

(a) The temporary delivery of a used system or parts to a dealer or producer for repair and redelivery to the same owner; the redelivery of a repaired system or parts to the same owner; the loan of a new or used system or parts for a period not to exceed 30 days pending the performance of maintenance and repair service to a used system or parts; the exchange of a used sub-assembly of a type which is normally exchanged in assembled form in order to permit immediate restoration of an installed system to service and subsequent shop reconditioning of such sub-assembly, in the performance of maintenance and repair service; and the redelivery to the lessor or lender, of a leased or loaned system, upon the expiration of such lease or loan; or

(b) The delivery of a used system or parts for junking or scrapping; or

(c) The delivery of new or used mechanical or non-mechanical drinking water coolers owned on May 15, 1942, by any person engaged primarily in the business of leasing such water coolers, to any other person (and acceptance thereof).

(iii) The following shall be exempted from the terms of paragraphs (b) (2) and (d) (1) (i):

(a) The assembly, by any producer of single duty or double duty display cases, of any such cases, within 60 days after April 6, 1943, solely from parts which, on said date, had been fabricated or processed to the extent that use in any other type of equipment would be impracticable, if such parts were owned by such producer on said date, or were received within said period from any other such producer; (and the delivery of any such parts by any such producer to any other such producer); or

(b) The assembly by any producer of mechanical or nonmechanical drinking water coolers, of any such coolers not designed for use aboard ship, solely from parts or materials which, on April 6, 1943, had been fabricated or processed to the extent that use in any other type of equipment would be impracticable, if such parts or materials were owned by such producer on said date, or are received from any other such producer; (and the delivery of any such parts or materials by any such producer to any other such producer).

(2) **Other transactions.** The following shall be exempted from paragraph (b) (2):

(i) **Creation, assignment and enforcement of liens.**—(a) The creation, or assignment of any chattel mortgage, deed of trust, conditional sales contract or other lien on any new or used system or parts; (b) The transfer of title to, and/or delivery of, any new or used system or parts, through voluntary act or by operation of law, in bankruptcy, receivership, or assignment, to a trustee or receiver for the benefit of creditors;

(c) The attachment or seizure of any new or used system or parts by levy or other judicial process on behalf of creditors or tax authorities, or the seizure of any such system or parts by any person upon default under the terms of a con-

ditional sales contract, chattel mortgage or other lien.

Any delivery made subsequent to any action described under (a), (b) and (c) above shall not be exempted, however.

(ii) **Disposition of assets.** The delivery of any new or used system or parts, whether incorporated in real estate or as separate personal property, as part of a larger transaction, such as a merger, consolidation, sale and purchase of entire assets, sale and purchase of entire stock and/or lease of plant, or similar transactions involving the transfer of all or substantially all of the assets of an enterprise, where no liquidation or dismemberment of assets is contemplated.

(iii) **Transfers by will or intestacy.** The delivery or transfer of any new or used system or parts by will, descent or distribution, to devisees, legatees, or distributees.

(h) Miscellaneous provisions.

(1) **Applicability of regulations.** This order and all transactions affected thereby are subject to all applicable Regulations of the War Production Board, as amended from time to time, except to the extent that any provisions of this order may be inconsistent therewith, in which case such provision of this order shall govern.

(2) (Revoked May 20, 1943.)

(3) (Revoked May 20, 1943.)

(4) **Violations.** Any person who wilfully violates any provisions of this order, or who, in connection with this order, wilfully conceals a material fact or furnishes false information to any department or agency of the United States is guilty of a crime, and upon conviction may be punished by fine or imprisonment. In addition, any such person may be prohibited from making or obtaining further deliveries of, or from processing or using, materials under priority control, and may be deprived of priorities assistance.

(5) **Appeals.** Any appeal from the provisions of this order (or of Conservation Orders M-9-c or M-126 applicable to any systems, parts, or other equipment subject to the terms of this order) shall be made by filing a letter in triplicate, referring to the particular provisions appealed from and stating fully the grounds.

(6) **Communications.** All reports to be filed and other communications concerning this order should be addressed to: War Production Board, General Industrial

Equipment Division, Washington, D. C., Ref.: L-38.

(f) This amendment shall become and be effective on and after April 6, 1943. It shall not affect, in any way, any liabilities or penalties accrued or incurred under General Limitation Order L-38 prior to this amendment.

Issued this 20th day of May, 1943.

LIST A

Items which may be delivered unrestricted

1. Beer pre-coolers
2. Beverage dispensers
3. Bottled beverage coolers, mechanical
4. Bottled beverage coolers, non-mechanical
5. Counter and back bar refrigerators
6. Display cases, single duty

7. Display cases, double duty
8. Display cases, florist
9. Display cases, frosted food
10. Display cases, full vision
11. Display cases, vegetable
12. Display cases, all other types
13. Dough retarding refrigerators
14. Draft beer equipment
15. Evaporative coolers, 2,000 c.f.m. or less
16. Farm freezers (for the freezing and storing of food on a farm)
17. Florist boxes
18. Fountainettes
19. Frozen food cabinets, low temperature, not designed for use aboard ship or for use in mobile hospital units.

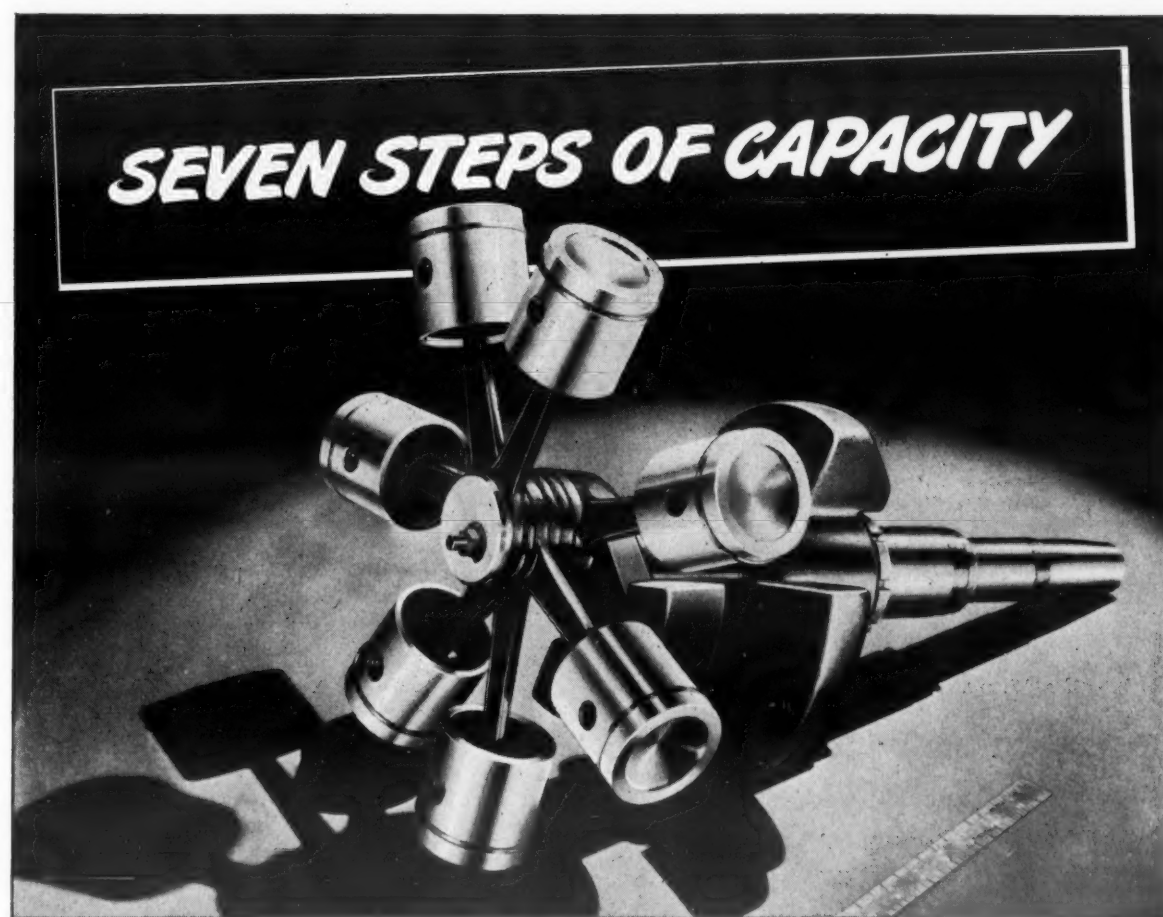
(Concluded on Page 22, Column 1)

LIST B

Note: Heading over second column of Part I; items 2, 3, 7, 8 amended May 20, 1943.

Items which may be delivered only as indicated below

Type of Equipment	Deliveries Permitted Under "Authorized Orders" for Direct Use by:
Part I	
1. Drinking water coolers, mechanical, not designed for use aboard ship.	Army or Navy
2. Drinking water coolers, non-mechanical, all sizes.	Army or Navy, or to any person.
3. Evaporative coolers, over 2,000 c.f.m.	Army or Navy, or to any person.
4. Ice cream freezers, 20 quart capacity or less.	Army or Navy, for use aboard ship or in advanced bases (outside the 48 States and D. C.).
5. Mortuary refrigerators	Army or Navy
6. Portable bulk ice makers	Army or Navy
7. Self-contained unit air conditioners, 2 h.p. or less.	Army or Navy, or to any person.
8. Wall type display refrigerators.	Army or Navy or to any person.
Part II	
a. Drinking water coolers, mechanical, designed for use aboard ship.	Army, Navy, Maritime Commission, or War Shipping Administration, for use aboard ship.
b. Frozen food cabinets, low temperature, designed for use aboard ship or for use in mobile hospital units.	Army, Navy, Maritime Commission, or War Shipping Administration, for use aboard ship or for use in mobile hospital units included but not limited to hospital cars.
c. Ice cream cabinets, designed for use aboard ship.	Army, Navy, Maritime Commission, or War Shipping Administration, for use aboard ship.
d. Soda fountains, designed for use aboard ship.	Army, Navy, Maritime Commission, or War Shipping Administration, for use aboard ship.



Cylinders Cut In and Out Individually as Needed

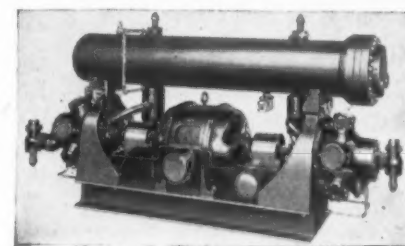


Holding constant temperatures . . . keeping compressor operation adjusted to load requirements . . . is accomplished automatically by the exclusive Airtemp Variable Capacity Radial Compressor.

The automatic cylinder unloading device cuts cylinders in and out individually as needed . . . permits starting compressor under no load . . . eliminates short cycling.

The exclusive unloader device uses a combination of simple mechanical and hydraulic principles which cause cylinders to function individually—on and off—according to varying load or temperature demands. This feature assures utmost economy and dependability.

Whatever your air conditioning or refrigeration requirements may be . . . first get the facts on Chrysler Airtemp Heavy Duty Units.



14 Cylinder Condensing Unit

FEATURES: AUTOMATIC VARIABLE CAPACITY CONTROL • UNLOADED STARTING • DIRECT CONNECTED • SIMPLIFIED INSTALLATION • NON-FLEXING VALVES • PRACTICALLY NO VIBRATION • NO SPECIAL FOUNDATIONS NEEDED • INTERCHANGEABLE PARTS • LIGHT IN WEIGHT

CHRYSLER AIRTEMP
AIRTEMP DIVISION OF CHRYSLER CORPORATION • DAYTON, OHIO

"Packaged" Units 3 & 5 H. P.—Direct Expansion and Water Cooling Systems—Commercial Refrigeration

Text of Amended Order L-38

(Continued from Page 21, Column 5)

20. Ice cream cabinets, not designed for use aboard ship.
21. Ice cube makers, self-contained cabinet type.
22. Salad coolers (Bain Marie), mechanical.
23. Soda fountains, not designed for use aboard ship.

Note: In no case shall the name or description of any equipment as listed above, include any fixture or item which is not within the meaning, as customarily used within the trade or industry, regardless of whether any particular fixture or item (not within such meaning) could be used for the purpose for which the equipment listed is customarily used.

LIST C—ESSENTIAL USES

Note: Introductory Statements and Heading to Part I Amended May 20, 1943.

Purposes for which refrigerating or air conditioning systems or parts thereof (other than equipment included on Lists A, B, D, and E) may be produced or delivered, subject to the terms of Order L-38.

(Certain orders are subject to approval under Order L-38, regardless of any preference ratings which may have been previously assigned; and will be approved only if new or enlarged refrigerating or air conditioning capacity is proven essential, or replacement is shown essential to the war effort. New systems in which any part of the capacity is included for air conditioning solely for the comfort of personnel or persons, will not be authorized.)

Part I—Applications to materials, production or facilities:

Mining, industrial, scientific, and technical processes and operations where lowering of temperature of, or removing water vapor from air, gases, materials, or products, or where freedom from dust and other impurities are proved necessary for production, storage, transportation, operation, or repair of materials or products, or precision functioning thereof, when, and to the extent proven essential for any of the following purposes:

1. Abrasives—production.
2. Aerial topography rooms aboard ship.
3. Airplanes and parts—production and repair.
4. Airport control towers.
5. Altitude and low temperature test chambers and laboratories.
6. Ammunitions and explosives—production, storage, and transportation.
7. Blood plasma—processing, storage, and transportation.
8. Blast furnaces (dry blast)—operation.
9. Ceramics, electric and dielectric—production.
10. Chemicals, including acids, gases, pigments and plastics, where new, additional or continuous productive capacity is essential—production.
11. Dairy products—processing, storage, dispensing and transportation, where essential.
12. Duplicating processes; such as, photographic, photostatic, and lithographic, processing and storage.
13. Communications products—production, or operation of relay stations and exchanges.
14. Films, photographic, for military purposes—production and storage.
15. Fire control calculation rooms, underground fortifications, plotting—switch-board rooms, mine casemates, command posts, and seacoast battery service magazines.
16. Foods—processing, storage, dispensing and transportation, where essential.
17. Fur cloth for military purposes—storage.
18. Glass, non-shatterable—production.
19. Ice—production and storage, where essential.
20. Laboratories—research, analytical, storage, and repair.
21. Navigation instruments—production, storage, and repair.
22. Optical goods; such as, bomb and gun sights, range finders, telescopes

and microscopes—production, storage and repair.

23. Ordnance, precision parts—production.
24. Parachute and balloon production.
25. Pharmaceuticals, drugs and biological products, necessary for life or health—production, storage, and transportation.
26. Petroleum products—production, storage and transportation.
27. Plants and factories (including blackout) above ground or underground; where it is shown that otherwise unavoidable heat, contamination of air, or variations in temperature or humidity, would seriously impair the effective use or production of precision instruments, tools, or products essential in the war effort.
28. Precision instruments, tools or products—production, storage, operation and repair.
29. Synthetic critical products—production.

Part II—Applications affecting human life or physical capacity.

- a. Anesthesia units, refrigerating.
- b. Aboveground plants and factories (including blackout)—producing essential materials; where it is shown that otherwise unavoidable heat or contamination of air would be dangerous to health or result in intolerable working conditions; and then only to the minimum extent required.
- c. Celestial navigation trainers.
- d. Engine test cells.
- e. Hospital rooms, stationary or portable, military or civilian, for surgical operations or critical convalescent treatment (excluding normal hospitalization), X-Ray rooms and Flight Surgeons Clinics.
- f. Link trainer rooms.
- g. Naval vessels of all types.
- h. Tanks, combat.
- i. Underground mines, communication rooms, air raid shelters and plants and factories, producing essential materials, where it is shown that otherwise unavoidable heat or contamination of air would be dangerous to health or result in intolerable working conditions; and then only to the minimum extent required.
- j. Waller gunnery trainers.
- k. "Jam Handy" and instrument trainer buildings, for military use.

LIST D

Items which may not be produced for any purpose.

1. Beer pre-coolers.
2. Beverage dispensers.
3. Bottled beverage coolers, mechanical.
4. Bottled beverage coolers, non-mechanical.
5. Counter and back bar refrigerators.
6. Display cases, single duty.
7. Display cases, double duty.
8. Display cases, florist.
9. Display cases, frosted food.
10. Display cases, full vision.
11. Display cases, vegetable.
12. Display cases, all other types.
13. Dough retarding refrigerators.
14. Draft beer equipment.
15. Evaporative coolers, 2,000 c.f.m. or less.
16. Florist boxes.
17. Frozen food cabinets, low temperature, not designed for use aboard ship or in mobile hospital units, including but not limited to hospital cars.
18. Ice cream cabinets, not designed for use aboard ship.
19. Ice cube makers, self-contained cabinet type.
20. Salad coolers (Bain Marie), mechanical.
21. Drinking water coolers, mechanical, not designed for use aboard ship.
22. Drinking water coolers, non-mechanical, all sizes.
23. Fountainettes.
24. Soda fountains, not designed for use aboard ship.
25. Self-contained unit air conditioners, 2 h.p. or less.
26. Wall type display refrigerators.
27. Farm freezers (for the freezing and storing of food on a farm).

LIST E

Note: Item 5 amended May 20, 1943

Items which may be produced only for specific purchasers and/or purposes:

- | Type of Equipment | Production Permitted for Direct Use By: |
|--|---|
| 1. Drinking water coolers, mechanical, designed for use aboard ship. | Army, Navy, Maritime Commission, or War Shipping Administration. |
| 2. Frozen food cabinets, low temperature designed for use aboard ship or for use in mobile hospital units. | Army, Navy, Maritime Commission, or War Shipping Administration, for use aboard ship or for use in mobile hospital units, including but not limited to hospital cars. |
| 3. Ice cream cabinets, designed for use aboard ship. | Army, Navy, Maritime Commission, or War Shipping Administration for use aboard ship. |
| 4. Ice cream freezers, 20 quart capacity or less. | Army or Navy, for use aboard ship or advanced bases. |
| 5. Evaporative coolers, over 2,000 c.f.m. | Army or Navy, or under "Authorized Order" to any person. |
| 6. Mortuary refrigerators. | Army or Navy. |
| 7. Portable bulk ice makers. | Army or Navy. |
| 8. Soda fountains, designed for use aboard ship. | Army, Navy, Maritime Commission, or War Shipping Administration, for use aboard ship. |

List F (Revoked May 20, 1943)

Our service on all properly rated orders will surprise you. Prompt shipments, parts, supplies, tools, tubing.

TED GLOU
CENTRAL SERVICE SUPPLY CO.

409 E. Jefferson St., Syracuse, N. Y. Phone 5-4000
209 Jefferson Ave., Scranton Pa. Phone 3-4000

Small Systems Aid British War Effort

Helpful In Solving Rationing Problems, Communal Feeding

By Theodore Raymond, of the British magazine "Modern Refrigeration"

The condition and quality of present food supplies in Great Britain is almost uniformly good, but some meat cargoes arrive in a condition in which the housewife is forced to serve the ration within 48 hours, unless it is kept in an ice-box.

The clever housewife can usually obtain six portions out of her own and her husband's weekly meat ration together, but unless she has a refrigerator these are served up on consecutive days instead of being spread over the week. There has been no mass-buying of ice-boxes of late, for they are not obtainable, but those available have been at a premium.

Pre-war models of domestic electric refrigerators originally costing \$120—three-year-old 3.1 cubic feet capacity types—are fetching \$160 and more, but with no production for many months these have been limited. Larger cabinets are proportionately dearer. There has also been a limited number of gas refrigerators (American Servel type equivalent) on sale in London; these have been chiefly of the smallest capacity, around 2.25 cubic feet, and mostly without any exterior porcelain finish, being suitable for fitting into existing kitchen equipment such as is to be found in apartments. These have been listed at \$60 and upwards.

GAS AND ELECTRIC ICE-BOXES

Gas and electric types have fared differently so far in the war. In the days of heavy blitzing, greater interruption occurred to gas supply than to electricity. Direct hits on gas mains caused longer hold-ups, with consequent breakdown in cooking and refrigerator facilities, than was suffered by the all-electric house. This occasioned a slight set-back to the popularity of the gas refrigerator.

Also, a strong pre-war feature of sales of gas refrigerators was their sponsorship by the gas utility companies, particularly in regard to hire-purchase buying. This was so to a less extent with the electric concerns also. Instalment buying has now been discontinued. Simple hiring-out, without long-term purchase, has also ceased for ice-boxes.

The utility companies are still able to give reasonably quick attention to servicing. On the other hand, refrigerating manufacturers have been unable to give such prompt service, even to commercial refrigerators, owing to the draft of key servicemen. Further rationalization is being pressed upon refrigerator manufacturers' service departments in regard to transport economy. The age for servicemen is 35, as opposed to 23 in World War I—an indication of the way in which the industry is aiding the war effort.

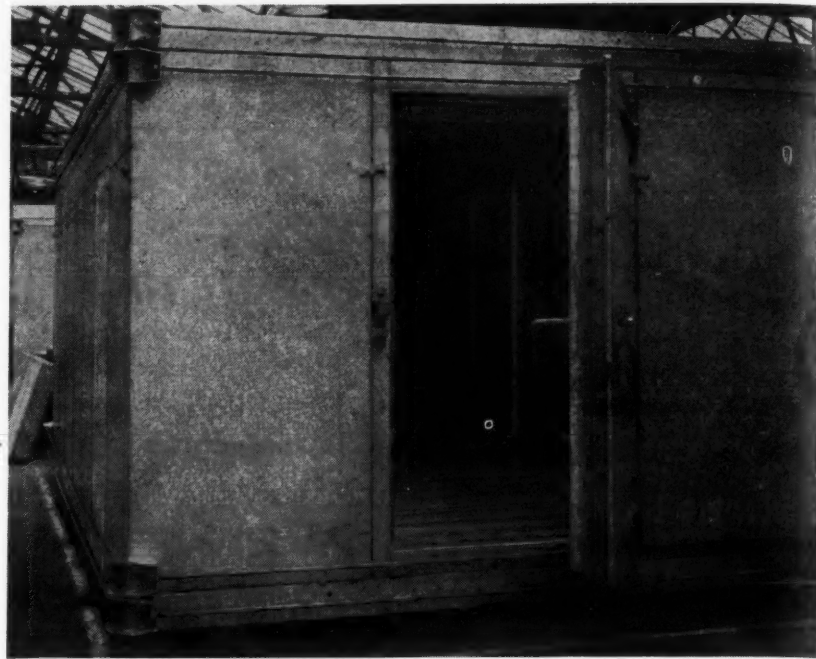
BRITISH 'RESTAURANTS'

The commercial refrigeration industry is finding one of its chief fields of activity in supplying "British Restaurants"—communal canteens for workers—with large refrigerators and small cold rooms in the following sizes: 8, 18, 26, 50, 100, 150, 250, and 500 cubic feet. Recent tenders accepted by the British Ministry of Works, on behalf of the Ministry of Food, have included 600 refrigerators and cold rooms of varying sizes.

This communal feeding movement is one of the great innovations of the war, which will have far-reaching effects on the eating-habits of the public. Hundreds of local authorities, Urban or Rural District Councils, have set up British Restaurants in their boroughs, partly on the advice of the Ministry of Food, who wish to have emergency feeding centers available in case of heavy enemy raiding, and partly through civic pride and desire to cooperate.

The result is that the public is obtaining extraordinarily cheap meals in pleasant surroundings. A generous and well-cooked plate of meat, accompanied by two vegetables and followed by a pudding, costs about 20 cents at one of these restaurants. The British Restaurant is usually

Britain's Food Preserver For Field Operations



Transportable, quickly-erected "cold store" of the type built in Britain for use afield. These measure 21 feet in length, 8 feet in height, and 10 feet in width, with a food storage capacity of 1,250 cu. ft. Refrigeration is provided by a gasoline-driven methyl chloride compressor.

a converted hall—although some have been specially built. Equipment and decoration vary according to the taste of the local Council, whose specification has to be approved by the Ministry of Food. In many cases, the head of the local art school is called in for consultation on decoration, with the result that budding young aspirants in the world of art are let loose upon the walls, executing "Brandgwyn" sized murals at great experience to themselves and at no cost to the municipality. One South-East London civic restaurant has gone so far as to provide a musical half-hour for 20 cent lunchers in a recreation room after the meal.

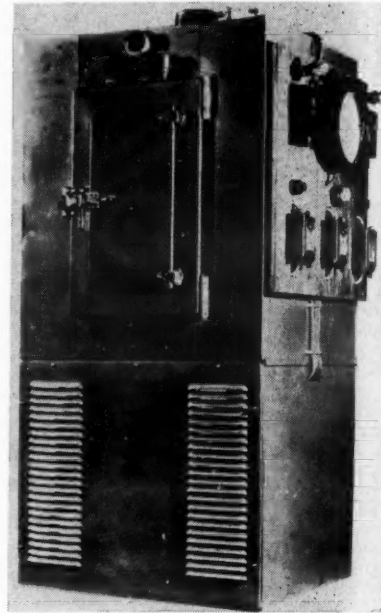
FACTORY CANTEENS USING ICE-BOXES

Commercial factory canteens have also increased their use of small refrigerators, on Lord Woolton's request that managements of all medium and large works shall provide adequate feeding facilities. In a high proportion of the canteen kitchen established under the Order that factories employing 250 or more people shall provide canteens, electrically-heated cooking equipment and refrigerators are installed.

Another field for commercial refrigeration at the present time is the aircraft industry, for instance the reproduction of flight conditions in the laboratory for the testing of aircraft instruments, and the prevention of hardening of duralumin rivets and other small parts by storing them at very low temperatures. Special methods of automatic control have been employed for this type of application, which has called for specially-designed instruments when temperatures as low as -60° C. have to be maintained.

Special transportable cold stores, for shipment overseas, have also been evolved by the commercial refrigerator industry and they have, incidentally, thrown much light on certain types of insulation thermal conductivities, particularly aluminum foil and cork. The latest pattern of

Test Cabinet



This low temperature controls testing cabinet, much like those widely used by war industries in this country, was built by British refrigeration firms.

transportable store, which is quickly erected, being built up of several sections which, if necessary can be thrown into the sea and used as rafts, is of 1,250 cubic feet capacity and can be brought down to between 15° and 20° F., against an ambient temperature of 100° F., and held at the specified level between those limits, by running a 3 hp. air-cooled methyl chloride compressor for 13 to 15 hours out of the 24.

There are many such instances of the essential part which the commercial refrigerator industry is playing in wartime Britain. In fact, it is only for such essential work that licenses for materials can be obtained. Britain's "small refrigerator" firms certainly have their place in the war effort.

SELL
SHERER

YOUR LOGICAL SOURCE FOR

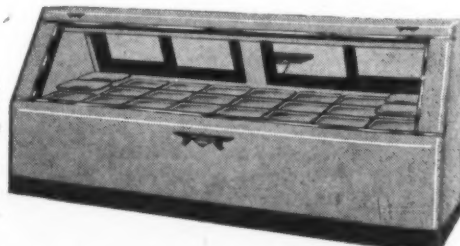
Refrigerator Equipment

Limited Number of all Types Available Without Priority For Immediate Shipment

A reliable source for a complete line of refrigerated display equipment. Write for franchise details.

Also available . . . all types of reach-in refrigerators and walk-in cooling rooms for government procurement agencies.

SHERER-GILLET CO., MARSHALL, MICH.



Hearings Before U. S. Senate Committee Depicted Value of Locker Plants

Suppliers at Chicago Meeting Told of Probable Expansion Plans

CHICAGO — Problems confronting suppliers of refrigerated locker plant equipment operating under present conditions, and changed methods of operation likely to occur under the industry's expansion program if recent recommendations of the War Food Administration for additional construction materialize, were thrashed out in considerable detail at the Chicago meeting of locker plant equipment manufacturers, suppliers, and dealers on May 23.

Important points which were discussed included the method in which applications for new plant construction approval would be handled under the proposed expansion program, status of previously made applications which had been refused, and locations and sizes of plants likely to be authorized.

Re-enter Old Applications

In response to the question by J. A. Smith, of Frigidaire, as to what would happen to previous applications which have been refused and returned, L. A. De More, of Dole Refrigerating Co., who acted as chairman of the meeting, answered that in all probability such applications would have to be reentered.

Many of these, he explained, were filed on the old form PD-1A, which has now been replaced with form PD-830, covering refrigeration equipment, and form PD-200, covering construction of plants. While both of these newer forms may possibly be used under the new setup, if approved, applications should, he stated, be remade. Whether, as at present, such applications would have to be accompanied by the special Department of Agriculture form WB 43-45, Supplies 10, which is obtained from the County Agricultural War Board, has likewise not been indicated.

He added that since time will be an important element in getting such new plants as are authorized into operation in order to preserve this year's crop, applicants would be wise to prepare complete data now in order to file applications promptly if and when the program is approved.

Present Forms Held Up

Since about May 15, Dr. DeMore concluded, applications for plant construction and extensions have been held up and are not being considered pending action of one sort or another resulting from findings of the recent Senate subcommittee hearings and recommendations by the War Food Administration to the Materials Requirements Committee.

In response to another question as to the speed with which action might be expected in processing applications following possible approval of the expansion program by the Materials Requirements Committee, Mr. De More stated that since current thinking is directed toward preserving this year's food supply, prompt consideration might be expected.

Supplementing Mr. De More's statement, Peter A. Bove, of Rutland, Vermont, who is working with the locker group in Washington, told the meeting that, for the sake of speed and because of its close association with the food supply situation in all parts of the country, applications for such construction as is approved will probably be cleared first through the War Food Administration.

The 'Metal Bank' Plan

If the proposed "Metal Bank" earmarking materials for the expansion program is established, he added, such a bank might be set up under the War Food Administration. Then, as applications are approved and sent on to the WPB for clearance, the materials authorized for new plants would be charged against the "Metal Bank" account.

R. R. Farquhar, of Omaha, secretary of the newly organized Frozen Food Locker Manufacturers and Suppliers Association, who also attended the Senate hearings, concurred in Mr. Bove's thinking, stating that in order to facilitate processing of applica-

tions, one small committee might be expected to handle them.

Several refrigeration equipment dealers attending the meeting made suggestions concerning revisions of the standards for new plant construction which have been governing Department of Agriculture approval during the past year. Under the standards now set up, a minimum of 300 lockers, with 60% pre-construction rental is necessary.

R. W. Hayes, of the Air Conditioning Engineering Co., Oklahoma City, suggested that recommendations that revisions in these standards according to geographic needs be made to the Department of Agriculture. In his area, Mr. Hayes stated, population is such that plants of as little as 100 lockers have proved successful business ventures.

Mr. Smith, of Frigidaire, affirmed Mr. Hayes' suggestion, but asked if consideration might not be given to the advisability of determining a plant's minimum size on the basis of the most economical use of materials, taking refrigeration equipment, lockers and other items into consideration.

Ask 100 Unit Minimum

A. P. Beals, of the Western Service Co., Fargo, N. D., also recommended that minimum plant size be made 100 units, pointing out that many plants of this approximate size in his territory operated profitably, while larger plants would not, because of limited population.

He also suggested that recommendation be made to the Department of Agriculture that applications for plant construction and extensions be made direct to Washington, rather than through the County Agricultural War Boards. Most of these local boards, he stated, are not intimately acquainted with locker plant problems, and are frequently so overloaded with other activities that they are not able to give proper attention to the applications.

Others who spoke in favor of smaller plants than the minimum now allowed included George B. Harmon, of the Allied Store Equipment Co., Minneapolis and H. W. Summers, of the Acme Cooler Co., Grand Rapids, Mich. Mr. Harmon told the group he had installed six plants of less than 200 lockers each in his territory all of which had proved successful, in-

cluding one of 108 lockers at Big Bend, Minn. Mr. Summers pointed out that frequently the very communities which, because of inadequate transportation, are most in need of locker service are those which can't profitably support a 300-unit plant.

Pre-Rental Rule Hit

A number of comments were also made by those in attendance concerning the present requirement of 60% pre-rental of lockers in the case of plant extensions. Usually, it was stated, the operator of an established plant is well aware of the possibilities for locker rentals in his own territory, and is not likely to take chances on over-expansion.

Organization of the new Frozen Food Locker Manufacturers and Suppliers Assn. was decided upon at the Chicago meeting as being a necessary step in providing manufacturers of equipment, suppliers, and equipment dealers with an active voice in the operation and growth of the locker plant industry.

Suppliers Organize

Following a motion by Bryce Vollmer, of Master Manufacturing Co., Sioux City, which was seconded by Mr. Harmon, of Minneapolis, the formation of the association was voted unanimously, and several memberships were immediately signed.

Dues in the organization were decided upon as \$100 per year for manufacturers, suppliers, and dealers, with a 1% assessment against the contract price of plant construction and extensions sold by the latter. This 1% assessment will be charged against the \$100 dues payment until the 1% figure passes the \$100 mark during the course of the year, after which the 1% assessment will continue, requiring additional payments by the dealers beyond the \$100 figure.

A suggestion by R. W. Messner, of the Refrigeration Equipment Co., Madison, Wis., that the National Refrigeration Supply Jobbers' Association be contacted concerning financial participation in the new association was taken under advisement by the officers pending selection of an Executive Board of Directors and a Membership Committee for the organization.

Reports on the recent Senate hearings investigating the current status of the locker plant industry were given at the Chicago session by Mr. Farquhar, C. F. Mohr, locker manufacturer, of Aurora, Ill., George Foerstner, of the Amana Society, Amana, Iowa, and Mr. Bove.

Farmers Talk to Senate

The Senate hearings opened, Mr. Farquhar related, on Thursday morning, May 6, with a statement by Senator Tobey, of New Hampshire, who endorsed the value of the frozen food locker plant and pointed out the acceptance of locker plant services and the need for additional plants in his state.

Senator Tobey was followed by Frank Wilson, Assistant to the Secretary of Commerce and an Iowan, who testified favorably on the value of locker plants and the need for additional plants at this time. Following his testimony, Mr. Wilson was questioned on his statements by Senators Bushfield of South Dakota and Shipstead of Minnesota.

Thursday's hearing was concluded with statements by Mr. Patton, of the National Farmers Union, and Mr. Brinkman, of the National Grange, who endorsed the locker plant service as a definite wartime saver of manpower and transportation.

Friday's hearing started with testimony by Mr. Ogg, President of the American Farm Bureau Federation, representing 600,000 American farm women. Mr. Ogg made a plea in behalf of his organization for more plants at once as a means of guaranteeing preservation of food grown in Victory Gardens this year. Freezing of food, he pointed out, is a quick means of preservation which saves both materials and time.

Tell of Great Savings

Mr. Ogg was followed by Arthur Packard, president of the Vermont State Farm Bureau, who testified that locker freezing of food this year is especially desirable as a means of saving both meats and vegetables which might otherwise be wasted for lack of time and facilities in preserving these foods by other means.

H. L. Titus, of Sterling, Colo., President of the NFFLA, followed Packard and traced the history of the frozen food locker industry, enumerating the specific contributions the locker plant field had made to the prosecution of the war. He was followed by Congressman Miller, of Massachusetts, who stated that there is now a large need and public demand for additional locker plants in his state.

Mr. Mohr, of Aurora, then took the stand and pointed out the savings in transportation, spoilage and manpower he had seen in the field where adequate locker plant facilities existed.

The consumer's picture was given by R. J. Randolph, a farmer of

Middlesex County, Virginia, who pointed out his lack of a farm freezer or available locker plant, and the consequent food spoilage evident in his southern community. Mr. Holman, of the National Farm Milk Producers Association, confirmed Randolph's statements and criticized the WPB for lack of foresight in its negative attitude towards construction of both milk coolers and locker plants.

Holman concluded his testimony with a direct request that a so-called "Metal Bank" be established providing a definite and earmarked metal reserve exclusively for the requirements of new equipment in this field.

Mr. Bove then took the stand and spoke of his difficulties in obtaining priorities assistance for new plants in the New England area, and the pressing need for such plants.

Some Former Difficulties

J. D. Pusey, of Avandale, Pa., a prospective plant operator, followed Mr. Bove and outlined the fruitless efforts he had spent over a period of a year in trying to get the \$500 or \$600 worth of equipment which he needed in order to complete a plant already in the final stages of construction.

S. T. Warrington, of the U. S. Department of Agriculture, then took the stand and outlined the methods by which his department arrived at the needs of individual communities for new plant services. He also reported the Department of Agriculture standards which have governed new plant construction for the past year, including a required minimum of 300 lockers per plant, with 60% pre-construction rental of these, provision of a specified volume of chill and aging room space for each locker, and a maximum of 15° coil differential temperature.

Senator Questions Standards

These standards and the method of arriving at them were questioned by Senator Aiken after which Mr. Warrington pointed out the difficulties confronting the setting up of the proposed "Metal Bank" in view of the 15 government agencies now having prior claims on uses of metals.

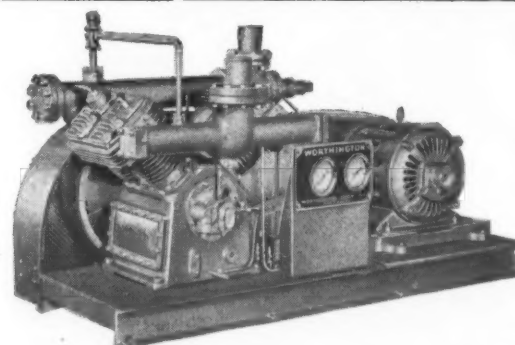
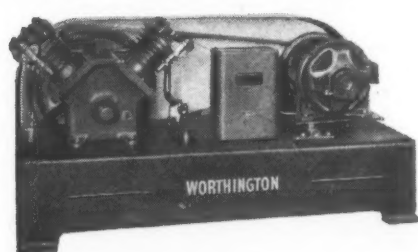
Friday afternoon's session was largely devoted to testimony pointing out the government's reluctance to authorize new plant construction, or widespread plant extensions.

Fred Northrup, of the Construction Materials Office of the Food Distribution Administration presented an outline of the procedure necessary for

(Concluded on Page 24, Column 1)

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Furnished with water-cooled condenser, or for shower condenser application

CAD-21

Senate Committee Made Thorough Inquiry Into Locker Plant Industry

(Concluded from Page 23, Column 5)

obtaining metals allocations. He was followed by Fred Smith, Chief of the Special Equipment Division, Industrial Equipment Branch of the WPB, who explained that in the third quarter of 1943, only 12½% of the steel production of the country is earmarked for civilian demands. Under the circumstances, he pointed out, the available quantity for this industry appears very small, unless additional supplies are forthcoming, which his department might allocate.

Farquhar Describes Crisis

Mr. Farquhar opened Saturday's hearing with data on the critical shortage of locker plant facilities in the Midwestern area, and stated that he understood materials for a very large number of plants was already built and standing in manufacturers' stocks pending release. One refrigeration firm, he stated, is reported to have nearly 800 condensing units of three to 20 hp. available which could be used for equipping new plants and plant extensions immediately if released.

Farquhar was questioned on his statements by Senators Bankhead of Alabama and Bushfield of South Dakota, and agreed that the bulk of new plants built now should go into the smaller towns and rural areas.

A representative of Mr. Benson, head of the Food Distribution Admin-

istration then outlined his department's general policy of using equipment already on hand to the best possible advantage.

Mr. Munce, of York, affirmed the growing need for additional facilities, based on a recent field survey conducted by York branches, and stated that his company does have a considerable volume of material available for construction of refrigeration equipment.

Fred Smith Testifies

Fred Smith was then recalled and questioned on his department's attitude toward the use of existing material stocks. He pointed out that most of the stocks in the hands of distributors and dealers are considered available only for emergency repairs and replacements. He was questioned by Mr. Farquhar on the advisability of maintaining large stocks of complete units and parts at a time when uses of refrigeration in many fields has suffered a wartime slump.

Smith answered that the question of general policy was under reconsideration, and stated that since the Senate hearing had started, he and his department had been in contact with the Department of Agriculture and with the Food Distribution Administration. A report on the meetings and a statement of policy, he

added, would be announced to the industry shortly.

J. E. Wilson on Farm Freezers

Saturday's testimony was concluded with testimony by J. E. Wilson, of the Wilson Cabinet Co., Smyrna, Del., who detailed his unsuccessful efforts to obtain priorities assistance in fabricating 800 small farm freezers, parts for which, he stated, were almost entirely on hand.

Saturday morning's session was attended by Senators McNary, of Oregon, Wherry, of Nebraska, Gillette, of Iowa, and others who did not participate in the testimony or questioning. However, Senator Wherry, after attending the session did speak in the Senate on Monday, May 10, endorsing the favorable findings of the subcommittee and asking that additional plants be authorized.

Packers' Stand Attacked

Hearings resumed on Wednesday, May 12, with testimony by John D. Madigan, Chief of the Meat Branch of OPA, who outlined his department's policies of encouraging meat distribution through regular channels. His testimony was immediately challenged by Senator Gillette, who, after receiving an affirmative reply to his question, if, in essence this meant distribution through the "Big Five" packing companies, assailed the OPA Meat Branch policies.

Speaking on the question of whether meat held in lockers is hoarded, Nolan D. Jackson, Chief of Special Unit Food Rationing Division of OPA, stated that the OPA did not look on

meat in lockers as hoarded. He elaborated on the point previously made by Mr. Madigan that a survey of the meat held in lockers at the time meat rationing was started was not made, in view of the relatively small quantity stored in this manner and the belief that meat so held was not to be considered as hoarded.

Construction Chief Speaks

R. A. Kimball, Chief of the Housing and Construction Branch of WPB testified as to his department's policy concerning construction of new buildings. He explained that the policy is to okay such applications as are approved by the Department of Agriculture and the Refrigeration Section WPB, pointing out that his department had approved construction of 14 of the 15 applications for locker plants sent to it by the Refrigeration Section since last December.

George Foerstner, of the Amana Society, then took the stand to outline the situation in the area served by his organization, and stated that two applications for plants had recently been approved in his territory.

Harold Stratton, of Rutland, Vt., concluded the hearing with the assertion that a good supply of used lumber suitable for new plant construction is readily available in the Rutland area.

Plan Revised Standard

Following the Senate hearings, members of the industry met with Mr. Warrington and discussed a revision of the standards set up by the Department of Agriculture to govern new plant construction.

Of particular concern was the requirement for 300 lockers in new plants. Efforts are being made, Mr. De More stated to the Chicago group meeting, to lower this to 200 or even 100 lockers, especially when such plants are installed in connection with an existing business. A waiver of the 60% pre-rental requirement, particularly in the case of plant extensions, is also being sought, he added.

Following the lengthy report on the Senate hearings, Mr. Mohr took the floor at the Chicago meeting and expressed satisfaction at the fairness and completeness with which the hearings had been conducted, stating that the three main points—a presentation of the need and public demand for plants, the statements of and reasons for opposition to renewed activity in the industry, and the advisability of using present inventories to build plants—had been well established.

Bove Tells How it Started

Mr. Bove then outlined his interest in the locker plant situation, tracing his activities in the field from the time a year ago when he first went to Washington to apply for approval on eight plants to be built in Vermont, up to the present time. He also commended the progressive spirit of Senator Aitken, who has been a strong proponent of the locker industry since studying the value of locker services in midwestern states at the time he was governor of Vermont.

Stating that no one is to blame, but that lack of a definite policy has hindered the industry in its expansion during wartime, Mr. Bove pointed out that the picture has now been brought sharply into focus by the Senate hearings, and that a definite policy of one kind or another can be expected shortly.

This policy, he explained, will be based on recommendations of the Senate subcommittee, Mr. Warrington's office, and the Materials Requirements Committee. Present indications, he continued, are that roughly a thousand new plants and plant extensions are being considered for approval. It is possible, he stated, that these will be in addition to such plants as can be built from materials now on hand, giving the industry a substantial expansion quota for the balance of 1943.

Under this program, he added, it is believed that careful consideration will be given to the problem of geographic distribution over a wide area. It is unlikely, he concluded, that suburbs of large cities will be considered as meriting such plants as may be approved.

Sen. Wherry's Talk To Senate on Locker Field

(From the Congressional Record, Proceedings and Debates of the 78th Congress, First Session.)

HON. KENNETH S. WHERRY
of Nebraska

In the Senate of the United States
Monday, May 10, 1943

Mr. Wherry. Mr. President, it has been my privilege to serve on subcommittees which have had to do with the question of critical materials which have been fabricated for domestic and commercial uses throughout the country, particularly those used by the American family.

Within the past few days—as I recall, on Friday or Saturday of last week—a subcommittee of the Committee on Agriculture and Forestry, of which the distinguished Senator from Vermont (Mr. Aiken) is chairman, had under consideration releasing fabricated materials for the manufacture of food lockers, which are used extensively throughout my state as well as other Middle Western States, especially by farm families, in the preservation of fresh foods.

I feel that the subcommittee is doing a very important work. When critical materials have been fabricated and stored in warehouses, and no demand has been made by the government upon the warehouses for the release of such materials.

I cannot understand why they should not be used for the purposes for which they were fabricated. They are not being used for anything else. For any other use, they would have to be remelted and would become almost worthless so far as the amount of steel is concerned. That is the case with the lockers which I have in mind, and about which I wish to speak for a few minutes.

For a number of years frozen-food locker plants have played an increasingly important part in the food supply of the farm families of Nebraska. Nebraska now has 222 such plants serving approximately 50,000 Nebraska farm families. In a number of counties as many as 50% of our farm families make use of locker facilities for the storage of their meats, poultry, fruits, and vegetables which are locally raised and consumed by the families of those who raise them.

This practice of processing and storing at home for future use the produce of Nebraska farms has lowered the cost of living for those farm families. It has eliminated otherwise necessary transportation to and from distant processing points. It has saved many tons of metal which might otherwise have been required for canning, and has given to those families a better-rounded diet of fresh food throughout the year.

At the present time there is a widespread demand for additional plants in communities which do not now have such service. While the necessity for conservation of critical materials is, of course, fully realized, I have been advised that there is available throughout the country a very considerable quantity of the refrigeration equipment required which has already been processed and manufactured.

Much of this equipment has been lying idle for many months in the warehouses of distributors and manufacturers, apparently unwanted by any agency of the government, and much of it is unusable for other refrigeration work.

I believe that it is only common sense to make this equipment available to communities which desire and need locker service, and that such use would not interfere with the war effort, but would materially assist in supplying civilian food needs as well as in the conservation of the products of Nebraska farms.

Mr. President, I should like to ask that Senators from large areas in the Middle West, especially where ranchers have to travel several hundred miles to secure fresh foods, meats, and vegetables, give this subject consideration.

I ask that they speak to the members of the subcommittee and see if we cannot have these lockers released for the purposes for which they were fabricated. The fabricated materials to which I have referred, which are now stored in warehouses, would be of greater service in preserving food on Nebraska farms than in any use to which the government might put them at this time.

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Plan already running in my plant."

Sure, there is—but how long is it since you've done anything about it? These plans won't run without winding, any more than your watch! Check up on it today. If it doesn't show substantially more than 100% of your plant's pay-roll going into War Bonds, it needs winding!

And you're the man to wind it! Organize a vigorous drive. In just 6 days, a large airplane manufacturer increased his plant's showing from 35% of employees and 2½% of pay-roll, to 98% of employees and 12% of pay-roll. A large West Coast shipyard keeps participation jacked up to 14% of pay-roll! You can do as well, or better.

By so doing, you help your na-

tion, you help your workers, and you also help yourself. In plant after plant, the successful working out of a Pay-Roll Savings Plan has given labor and management a common interest and a common goal. Company spirit soars. Minor misunderstandings and disputes head downward, and production swings up.

War Bonds will help us win the war, and help close the inflationary gap. And they won't stop working when victory comes! On the contrary—they will furnish a reservoir of purchasing power to help American business re-establish itself in the markets of peace. Remember, the bond charts of today are the sales curves of tomorrow!

You've done your bit  Now do your best!

Report of U.S. Senate Committee Advocating More Locker Plants

REPORT OF FOOD COMMITTEE

The subcommittee of the Senate Committee on Agriculture and Forestry known as the Food Committee has just concluded an investigation of the quick freeze locker program within the United States. Appearing before the committee in regard to this subject were representatives of rural communities, all of the major farm organizations, manufacturers of equipment going into the production of these lockers, and representatives of departments concerned with the allocation of material necessary for the construction of these plants.

It developed through the testimony of the representatives of rural communities that there would be a great saving of food as a result of an expanded use of these plants. They also brought to the attention of the committee the unfavorable outlook for increased production of much needed food crops due to poor seasons, and stressed the dire necessity of insuring the preservation of the foods that were produced.

It was also pointed out by these representatives that with shortages of gas and tires and the already overburdened transportation system caused by our war effort, those in rural communities would be in a much better position to preserve their food production by having available in their respective communities these locker plants where they could store their food and relieve the strain on transportation and conserve rubber and gas.

The major farm organizations represented at this hearing, The National Grange, The American Farm Bureau Federation, The Farmers Union, and The National Cooperative Milk Producers Federation, indorsed the freeze locker program, and in their testimony pointed out the savings of food, transportation, and manpower as a result of this program, and the effect of boosting farm morale.

These organizations, already acquainted with the operation of these lockers in states where they are now in use, were favorably impressed with the beneficial results obtained and the tremendous savings in food which would follow

in an expansion of the program. It was pointed out by these groups that the low rental fees made these lockers available to low income families, the average rental ranging from eight to 10 dollars a year.

It was also noted that with the Victory garden program, many pounds of vegetables that would spoil unless preserved in some manner could be saved through this method.

Representatives of the industry appearing testified that there were now in use in 47 states 4,600 locker plants. The annual turnover of processed food amounts to three-quarters of a billion pounds of food. It was also developed through these witnesses that there now exists throughout the country idle equipment, which has been frozen by agencies of the government, in the amount sufficient to expand the program, making available additional locker plants in areas where much food could be preserved and increasing considerably the amounts already being processed as indicated in the existing 4,600 plants.

It was definitely determined that quick freezing in no way injures the palatability of the food nor decreases the health giving contents. The industry testified that they are ready as soon as materials were made available to expand the program to the extent of the allotment.

Government agencies represented at this hearing were the War Production Board, the Office of Price Administration, and the War Food Administration. Each of the witnesses who appeared were in some degree responsible for materials which would be necessary to expand this program and also for determining the essentiality of such a program.

It appeared through their testimony that a complete inventory of the available equipment now on hand but frozen throughout the nation had not been carefully audited and the exact amounts that might be utilized in the expansion of the quick freeze locker program at this time was not available. All agencies agreed as to the necessity of preserving the food of the nation.

Guiding Lights In New Locker Plant Supplier Group



L. A. DeMORE
Of Dole Refrigerating Co., Chicago,
president of the new association.



R. R. FARQUHAR
Of Omaha, secretary, Frozen Food
Locker Mfrs. and Suppliers Assn.



GEORGE FOERSTNER
Of the Amana Society, Amana,
Iowa, treasurer of the group.

The subcommittee, after having heard the testimony of the witnesses, has reached the following conclusions and recommendations.

In view of the apparent decrease in production of food crops, brought about by poor growing seasons this year, and being aware of the vital necessity of utilizing all the food produced especially now in order to furnish food supplies for lend-lease, our armed forces and our civilian population, the committee feels that any program which is designed to protect and preserve the food produced should be carefully considered.

The committee is also aware that there exists a shortage of manpower throughout the nation which is affecting our food supply and any program which will relieve this in any way must be borne in mind.

The importance of relieving the strain on our transportation facilities and conserving our rubber and gas supply in connection with the food production is in itself paramount.

The canning industry today is working to maximum capacity preparing commercial packs for

our war effort against the handicap of restricted materials which go into the production of cans. Any method of preserving food without the use of cans, thereby releasing available supplies to our fighting fronts, is a vital aid to our war effort.

In view of the foregoing, the committee makes the following recommendations:

(1) To increase the program of the quick freeze lockers by making available at once material for constructing 1,000 new plants throughout the country, located in sections where maximum use can be made of their services.

(2) That there be set up under the War Food Administration a special pool of metals to be used in the expansion of this program.

(3) That in view of the need to preserve all of this year's food production, action be taken at once by departments responsible for allocation of these materials to make any materials on hand immediately available for new construction or expansion of existing plants in addition to the 1,000 plants recommended above.

Cooling Used In Making Plastic Parts For Navy

ERIE, Pa.—A molded plastic case and dome that increases the efficiency of a new and light weight water light, designed to attract rescuers to seamen adrift at sea, is being produced with the aid of refrigeration by the Plastics Div. of Erie Resistor Corp.

Injection molded of clear plastic, the entire container and dome weigh but 19 ounces, making the complete water light weigh slightly more than three pounds. This is approximately one-fifth the weight of the ordinary water light. The plastic material, being impervious to water, affords better-than-average protection to the batteries and lamp.

To prevent excessive shrinkage of the molded plastic parts after they are removed from the mold, Erie Resistor Corp. has installed Carrier refrigeration equipment which furnishes cooled water for the injection molding machines. The equipment not only serves as making practicable the new plastic water light, described above, but also is used by Erie Resistor Corp. in the protection of other important war items—such as plastic radio bezels (control panels) and molded plastic machine gun parts.

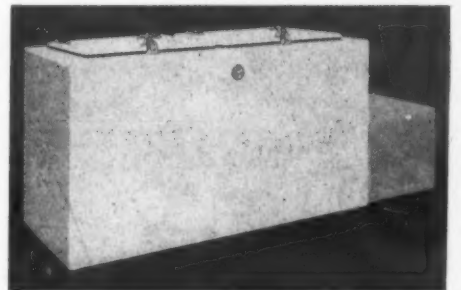
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"Tomorrow's" Farm family will enjoy home-grown food variety all the year 'round. For, by FREEZING and FROZEN STORAGE facilities in the CONTINENTAL FARM LOCKER PLANT, all those luscious berries, vegetables, fruits, even meats, poultry and game will be preserved for MONTHS—right in the farm kitchen. This means greater food savings and more healthful meal variety. Write for Continental Farm Locker Plant War Purchase information.

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Model illustrated is C-1243. Capacity 12.5 net cu. ft. Holds up to 600 lbs. of frozen food.



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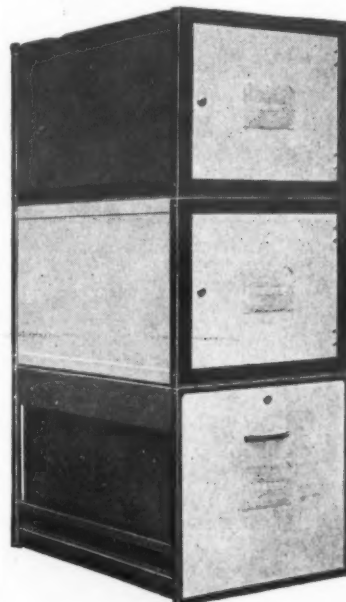
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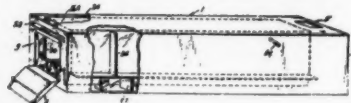
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PATENTS

Weeks of May 4 & 11

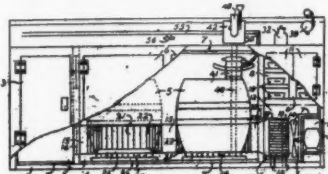
2,318,222. REFRIGERATION APPARATUS. Glenn D. Heisler, Portland, Ore., assignor to Carbonic Control Corp., Portland, Ore. Application May 6, 1941, Serial No. 392,152. 1 Claim. (Cl. 62-91.5).



Portable refrigeration apparatus comprising a metallic dry-ice chamber the bottom of which is corrugated and the remaining surfaces of which are planar to provide relatively greatly and lesser heat absorbing capacities respectively, a casing and partitions between which and the dry-ice chamber are formed a series of sequentially connected ducts adjacent the dry-ice chamber terminating in an inlet orifice to admit air from the refrigerated space to initial contact with the said surfaces other than the bottom of the dry-ice chamber at one end and in an outlet orifice adjacent the bottom of the dry-ice chamber at the other end, a duct mounted to communicate with said outlet orifice extending upwardly within the refrigerated space, power blower means to impel an air current through the

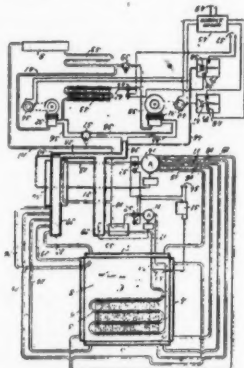
ducts from inlet to outlet, and temperature sensitive control means within the refrigerated space to govern the operation of the blower means.

2,318,309. DEVICE FOR REFRIGERATING BEVERAGES. Alan L. Hann, Newark, N. J. Application Feb. 10, 1939, Serial No. 255,711. 2 Claims. (Cl. 62-141).



1. A device for conditioning a beverage in its transportation container including an insulated cabinet, a door in the cabinet, a beverage transportation container positioned within the cabinet, refrigerating means, means for projecting gaseous matter in heat exchange relation with the refrigerating means and then the transportation container, supporting means for the transportation container so designed and constructed as to allow a portion of the projected gaseous matter to pass beneath the transportation container, said supporting means further including a container for a liquid adapted to retain it in heat exchange relation with the transportation container.

2,318,318. REFRIGERATION. Erwin Ludwig, Franklin Square, N. Y., assignor to Mobile Refrigeration, Inc., New York, N. Y., a corporation of New York. Application May 23, 1942, Serial No. 444,229. 12 Claims. (Cl. 62-115).



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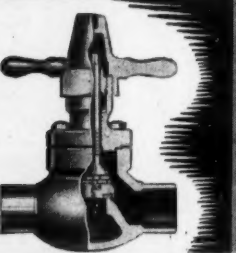
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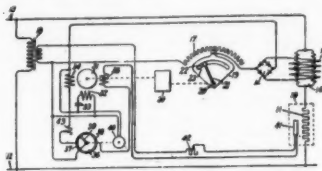
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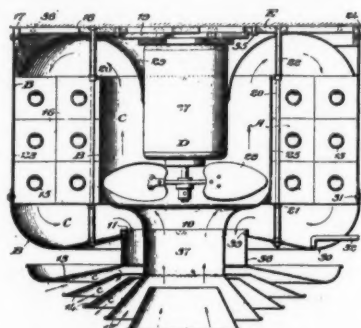
1. In a refrigerating system, in combination with a refrigerant evaporator, a refrigerant condenser and means for conducting condensed refrigerant from said condenser to said evaporator, at least two compressors connected in parallel between said evaporator and said condenser, and means responsive to a predetermined increase in the difference in pressure between the refrigerant in said evaporator and the refrigerant in said condenser for connecting said compressors in series between said evaporator and said condenser.

2,318,358. CONDITION CONTROL SYSTEM. Alexander W. Bedford, Jr., Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Feb. 16, 1942, Serial No. 431,084. 8 Claims. (Cl. 236-74).



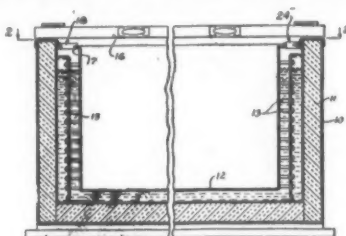
6. In a system for controlling the temperature of an enclosure, heating means for supplying heat to said enclosure, control means for changing the output of said heating means in a continuous manner, a reversible electric motor for driving said control means, reversing means for selectively connecting said electric motor to a source of electric current supply for rotation in opposite directions, timing means arranged periodically to operate said reversing means thereby periodically to connect said motor for rotation in opposite directions for predetermined fixed time intervals, said motor normally oscillating said control member about a fixed mean position while said enclosure remains at a predetermined normal temperature, and temperature sensitive means responsive to the temperature of said enclosure for controlling the speed of said reversible motor in one direction thereby to unbalance the oscillations of said control member in response to any deviation of said temperature from said predetermined normal and to cause the means position of said control member to progress in a direction determined by the direction of said deviation and at a rate proportional to the magnitude of said deviation.

2,318,393. HEAT EXCHANGE APPARATUS. Friedrich Honerkamp, Vester F. Self, and Franz J. Kurth, New York, N. Y., assignors to Anemostat Corp. of America, a corporation of Delaware. Application Feb. 29, 1940, Serial No. 321,556. 8 Claims. (Cl. 62-129).



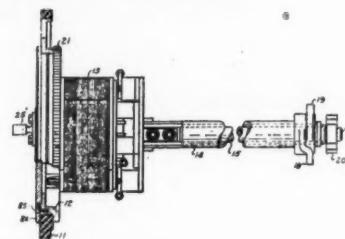
1. A heat exchange device comprising inner and outer annular wall means and a single thin intermediate annular wall and top wall means providing a passageway including inner and outer continuous annular portions communicating with each other at the top of the device and otherwise separated from each other throughout their lengths, said single thin intermediate wall terminating at the lower end of the device in a constricted neck defining one end of said passageway, a bottom wall extending inwardly from the lower end of said outer wall means and having a neck disposed in surrounding relationship to and spaced from said first mentioned neck to define the other end of said passageway, heat exchange means disposed in said passageway, and means for circulating air through said passageway and through said heat exchange means.

2,318,414. COOLER CONSTRUCTION. John S. Palmer, Chicago, Ill., assignor to International Harvester Co., a corporation of New Jersey. Application March 18, 1940, Serial No. 324,570. 3 Claims. (Cl. 220-15).



1. In combination, a first container adapted to contain a refrigerant, a second container positioned within the first container and adapted to contain articles to be refrigerated, said second container having outwardly extending edges, a first bracket secured to the inside of the first container and having a notch receiving the edge of one side of the second container, and a second bracket comprising a first member having a notch in one end engaging the edge of the other side of the second container and also having a projection extending from one side, a second member secured to the inside of the first container, containing the first member, and having an elongated slot through which the projection of the first member extends, and a spring acting between the second member and the end of the first member opposite the end having the notch.

2,318,468. ADJUSTABLE HEATING APPARATUS. Francis S. Denneen, Cleveland, and William C. Dunn, Shaker Heights, Ohio, assignors to the Ohio Crankshaft Co., Cleveland, Ohio, a corporation of Ohio. Application Aug. 6, 1941, Serial No. 405,595. 11 Claims. (Cl. 219-13).



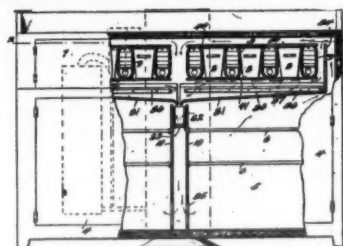
1. In apparatus of the character described, a transformer having a substantially tubular conductor secured thereto to form a substantially rigid power supply unit, the transformer and the conductor having a common axis of rotation, a support for the transformer and a support for the conductor, the said supports being spaced from each other, means for rotating the said unit on the supports to angularly adjust an inductor being carried by the unit, a bus bar for delivering current to the conductor, and means to secure the conductor to the bus bar to hold the aforesaid power supply unit in adjusted position.

2,318,476. SPACE HEATER. Robert B. Evans, Grosse Pointe, and Eugene F. Farrell and George M. Schneider, Detroit, Mich., assignors to Evans Products Co., Detroit, Mich., a corporation of Delaware. Application Nov. 28, 1939, Serial No. 306,534. 20 Claims. (Cl. 126-110).



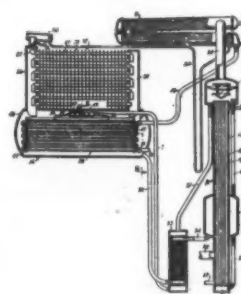
1. An air circulating space heater for rooms or the like comprising a floor-supported, upright casing enclosing an air heating combustion drum and having a lower air intake opening and a heated air discharging upper opening, blower means discharging into said casing, an upwardly swingable member forming a closure for said upper opening and a cover forming the top of said casing and permitting access to the space therebelow, and temperature responsive means to open said member to an inclined position to direct heat forwardly.

2,318,532. REFRIGERATING SYSTEM AND APPARATUS. James G. Scott, Washington, D. C. Application Sept. 3, 1939, Serial No. 228,433. 15 Claims. (Cl. 62-99).



1. A refrigerator apparatus including a refrigerating cabinet, a transverse baffle wall dividing said cabinet into upper freezing and lower storage compartments, an elongated evaporating unit extending across the upper compartment in spaced relation from said transverse baffle, and freezing container supporting means interposed between said evaporating unit and the transverse baffle, said supporting means having edge portions and a commodity supporting portion surrounded thereby and being arranged within said upper freezing compartment with said commodity supporting portion out of contact with said baffle and said elongated evaporating unit.

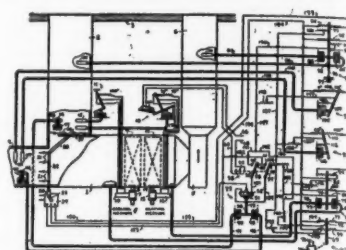
2,318,621. REFRIGERATION. William L. O'Brien, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Sept. 16, 1941, Serial No. 410,965. 8 Claims. (Cl. 62-119).



2. Refrigeration apparatus of the absorption type including structure for effecting gas and liquid contact including a plurality of elements disposed one above the other, structure for delivering liquid onto one of said elements to produce and maintain a liquid film on a surface there-

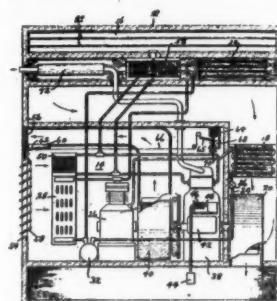
of, drop formers at a bottom part of said one element at which regions drops of liquid form and drop onto the next lower element, said drop formers utilizing a layer of surface material shaved from and still a part of said one element, the shaved surface material being shaped to provide said drop formers spaced such a distance apart that spreading of liquid on a surface of the next lower element is promoted.

2,318,706. AIR CONDITIONING SYSTEM. Alvin E. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Jan. 27, 1941, Serial No. 376,034. 17 Claims. (Cl. 257-3).



15. In an air conditioning system for cooling a space, in combination, means for supplying fresh air to said space, flow control means for controlling the supply of fresh air to said space, means responsive to the occupancy of said space for controlling said flow control means in a manner to increase its flow of fresh air upon increase in occupancy of the space, and means controlling said flow control means conjointly with said occupancy responsive means in a manner to increase the flow of fresh air to a maximum irrespective of the occupancy when outside air is cooler than the air in said space.

2,318,858. REFRIGERATING APPARATUS. James R. Hornaday, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Nov. 22, 1939, Serial No. 305,701. 14 Claims. (Cl. 257-3).



(Concluded on Page 27, Column 2)

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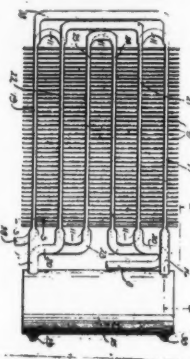
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Patents (Cont.)

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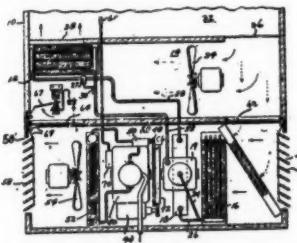
10. In combination, an evaporator, refrigerant liquefying apparatus for supplying liquid refrigerant to said evaporator comprising a compressor, a condenser and an internal combustion engine for operating said compressor, means forming an air duct within which said evaporator is located, means enclosing said refrigerant liquefying apparatus, liquid circulating means for transferring heat generated by said apparatus out of said enclosing means and into said air duct, means for circulating air to be conditioned through said air duct, and means responsive to a predetermined low temperature for increasing the amount of liquid refrigerant supplied to said evaporator.

2,318,891. **CONDENSING RADIATOR SYSTEM FOR REFRIGERATOR INSTALLATIONS.** Philip A. Sidell, Galesburg, Ill., assignor to Outboard Marine & Mfg. Co., Galesburg, Ill., a corporation of Delaware. Application May 10, 1941, Serial No. 392,851. 32 Claims. (Cl. 62-115).



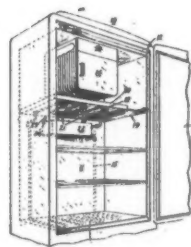
1. In a condenser system, the combination with a storage reservoir for coolant and a coolant circulatory pipe connected to the reservoir at vertically spaced points for convection circulation of coolant therethrough, of a refrigerant condenser pipe in heat exchange relation to the first mentioned pipe and coolant therein, the system being so arranged that the convection circulation of coolant in the first mentioned pipe reverses itself when the refrigerant ceases to give off excessive heat to the coolant.

2,318,893. **REFRIGERATING APPARATUS.** Harry F. Smith, Lexington, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Nov. 22, 1939, Serial No. 305,691. 11 Claims. (Cl. 257-3).



10. In combination, an evaporator, refrigerant liquefying apparatus for supplying liquid refrigerant to said evaporator, means for circulating air to be conditioned for an enclosure in thermal exchange with a portion of said liquefying apparatus, means for simultaneously circulating air to be conditioned for said enclosure in thermal exchange with said evaporator, and means responsive to a predetermined low temperature for increasing the amount of liquid refrigerant supplied to said evaporator.

2,318,984. **REFRIGERATOR CABINET.** Leonard W. Atchison, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Dec. 17, 1941, Serial No. 423,347. 3 Claims. (Cl. 62-89).



1. In a refrigerating cabinet comprising a food storage compartment, a primary refrigerating system including a cooling element located in one region of said compartment and a secondary refrigerating system including a cooling portion for cooling another region of said compartment and a condensing portion, means disposed below and adjacent to said element for receiving moisture and ice from said element, said means being formed of a relatively good heat conductive material, said condensing portion being disposed in heat exchange relation with said means, and means for removing any accumulated ice or liquid from said means.

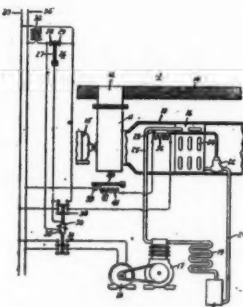
2,319,001. **REFRIGERATOR CABINET.** Robert A. King, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Oct. 7, 1940, Serial No. 360,117. 4 Claims. (Cl. 230-8).



1. In a refrigerator cabinet of the type having walls including inner and outer shells with opposed substantially aligned

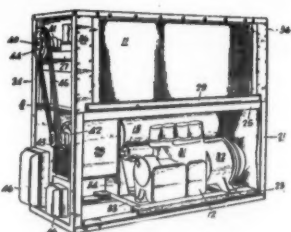
flanges, the edges of said flanges being maintained in spaced-apart relationship, and a relatively rigid breaker strip of thermally resistant material closing the space between said flanges, means extending substantially the full length of each longitudinal edge of said breaker strip for holding said breaker strip in place, said means comprising a relatively resilient retaining strip generally S-shaped in cross section, and having first and second longitudinally extending pockets on opposite sides of a central portion for receiving the edge of one of said flanges and an edge of said breaker strip, respectively in overlapping relationship, the free edge of said first pocket being directed toward said central portion, the free edge of said second pocket being displaced inwardly toward said flange then outwardly past the edge of said breaker strip to form a longitudinally extending headlike portion, and then substantially parallel to said central portion so that said retaining strip engages the other side of said flange at the free edge thereof and at the headlike portion and engages the inner side of said flange at the free edge of said first pocket, said first pocket being of a length such that the material adjacent the free edge thereof engages the inner side of said flange intermediate the points of engagement of the central portion of said retaining strip and said flange, whereby said flange is engaged along three spaced apart lines of contact, the resiliency of said retaining strip serving to cause said retaining strip to grip firmly said flange and breaker strip, respectively, the gripping action between said central portion and said flange and said breaker strip, respectively, being the only means for maintaining said breaker strip, said retaining strip, and said flange in assembled relation.

2,319,005. **REFRIGERATING SYSTEM.** Walter O. Lum, West Orange, N. J., assignor to General Electric Co., a corporation of New York. Application Sept. 18, 1941, Serial No. 411,275. 5 Claims. (Cl. 62-8).



1. A refrigerating system including an evaporator, an expansion valve for controlling the admission of refrigerant to said evaporator, means including a temperature responsive element secured in heat exchange relation with said evaporator for actuating said valve normally to admit less than the amount of refrigerant required by said evaporator, and means for applying heat periodically to said element to cause said valve to admit to said evaporator an amount of refrigerant greater than required by said evaporator whereby said valve admits to said evaporator amounts of refrigerant alternately greater than and less than the amount required by said evaporator, the degrees of opening of said valve when admitting said greater and lesser amounts of refrigerant respectively, being selected so that the average amount of refrigerant admitted is the amount required by said evaporator.

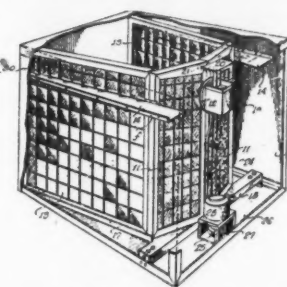
2,319,062. **AIR CONDITIONING APPARATUS.** Richard E. Holmes, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Aug. 3, 1940, Serial No. 350,812. 4 Claims. (Cl. 62-129).



1. A self-contained air cooling unit comprising a frame having corner posts and horizontal members connecting the corner posts at the top and the bottom, intermediate members attached to said frame and forming a cooling compartment in the upper portion thereof, an evaporator disposed vertically in one vertical side of said compartment, a fan disposed in said cooling compartment between said evaporator and the opposite side of the compartment, a filter casing section having an inlet and an outlet and having means for retaining a filter or filters therein in the path of the air flowing from the inlet to the outlet, said filter casing section being separate from said unit, means for detachably connecting said filter section to said unit with the outlet disposed toward said evaporator and thereby supporting said filter section on said unit, whereby said fan effects flow of air horizontally from said filter section and through said evaporator, and a compressor and a condenser supported on said frame below said cooling compartment and connected in refrigerant flow relation to said evaporator.

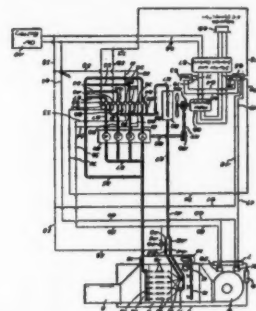
2,319,119. **AIR CONDITIONING APPARATUS.** Archie S. Feinberg, Dallas, Tex. Application May 18, 1942, Serial No. 443,389. 9 Claims. (Cl. 261-30).

1. An evaporative cooler and humidifier including a cabinet having a rear air intake and a front air outlet, means to effect movement of air therethrough, an assembly of filter pads in said cabinet arranged at a variety of angles in the air stream, means disposed behind the rearward pad assembly and above the midsection thereof for discharging water radially and forwardly toward said pad assembly to be influenced by said air



stream into the rearmost pads of said assembly, baffles disposed on a substantially horizontal plane, whose discharge edges are contiguous with the upper portions of the exterior walls of the side pads of the assembly and which are adapted to intercept and convey and distribute a portion of the discharge of said water discharging means onto said side pads.

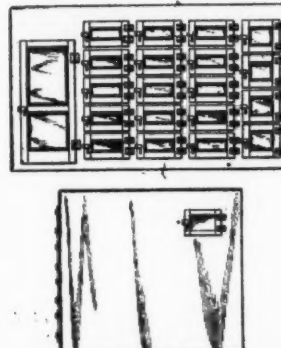
2,319,130. **REFRIGERATION CONTROL FOR AIR CONDITIONED PASSENGER VEHICLES.** Milton E. Hanson, Haddonfield, N. J., assignor to E. F. Sturtevant Co., Boston, Mass. Application March 5, 1941, Serial No. 381,832. 4 Claims. (Cl. 62-6).



1. An air conditioning system for a passenger vehicle, comprising an air cool-

ing evaporator, means including a refrigerant compressor for supplying refrigerant to said evaporator, a motor for driving said compressor, an electric battery motor, means including a thermostat responsive to temperature changes in the passenger space for disconnecting said motor from said battery when the air has been cooled to the desired temperature, wayside connections for supplying external electric energy to said motor as when said vehicle is standing in a station, means for unloading said compressor, and means actuated when said wayside connections are completed for disconnecting said thermostat from control of said motor and for connecting said thermostat to control of said means for unloading said compressor whereby when said wayside connections are completed and the air has been cooled to the desired temperature, said motor is continually energized from said wayside connections and said thermostat acts to unload said compressor.

135,651. **DESIGN FOR A REFRIGERATOR CABINET.** Peter Vassallo, Avalon, N. J. Application Feb. 24, 1943, Serial No. 109,619. Term of patent 14 years.



The ornamental design for a refrigerator cabinet, as shown and described.

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WRITE FOR CATALOG

KASON HARDWARE CORP. 127 Wallabout Street Brooklyn, New York

'Freon' Allocation For June Restricted To Food and Processing Jobs Only

(Concluded from Page 1, Column 4)
share of the available 'Freon' to your customers using June, 1942 shipments as a guide in Class 1 and 2 and on rated requests.

"Regardless of the rating applied emergency requirements will only be considered by this office for food processing and storage breakdowns and vital industrial processes where the product produced directly affects the prosecution of the war.

"In making up the PD-160 for July no ratings are to be included in the Defense Order Classification which have been applied under CMP-5, P-126, P-115, P-118, P-46 and P-89 on PD-1A. 'Freon' sold under these orders is to be placed in the proper class and not under rated classifications."

As an explanation of what this order means, the following are the four definitions of classifications as given in the application form PD-160:

"Classification I—Maintenance of refrigeration equipment already installed. Maintenance of air conditioning equipment already installed in hospitals, clinics, and sanatoria.

"Classification II—Maintenance of industrial air conditioning already installed. (Only where air conditioning is required for material in process.)

"Classification III—Maintenance of air conditioning equipment already installed, not included in Classifications I and II.

"Classification IV—Manufacture of new refrigeration equipment. Manufacture of new air conditioning equipment. (Includes installation of new refrigeration and air conditioning equipment)."

MORE PRODUCTION SOON

Kinetic Chemicals, Inc., producer of 'Freon' refrigerants, made the following announcement simultaneously with that of WPB:

"The shortage is of a temporary nature as a new 'Freon-12' production line will be operating August 1 and this should relieve the situation.

"All of the May allocation for which orders had been received by May 24 and which has not been shipped by May 31, will be shipped during June.

"It is presumed that distributor stocks of 'Freon-12' will tide the country over until increased amounts are available, but in case of hardship an appeal may be made under General Preference Order M-28 to Sterling Smith, Allocator of 'Freon' Refrigerants, War Production Board, Temporary Building E, Washington."

FALSE RUMOR CIRCULATED

Officials of Kinetic Chemicals, branded as entirely false some rumors to the effect that the armed services were taking all the 'Freon' that could be produced for purposes other than use in refrigerating machinery.

The cut in the June allocation, they declare, is due rather to a combination of circumstances that are the result of (1) heavy demands for both military and civilian refrigeration and air conditioning requirements; (2) misapplication of ratings in the past several weeks; (3) failure of those in the field to return cylinders in which the gas is shipped.

The situation is expected to correct itself within a month or so. Present production rate of 'Freon' is as high now as it has ever been, Kinetic engineers state, and by August 1 it is expected to be at an even higher rate.

Form PD-160 (Purchaser's Certificate of Necessity for 'Freon') applications in June were nearly double those of May, it is said. Furthermore, there was a flood of orders with too highly rated preference ratings that were the result of misapplications of the ratings in Orders L-38, P-126, and CMP Regulation No. 5. This has been fairly well corrected through amendments and interpretations.

HINGES ON CYLINDERS

On the matter of cylinder returns, Kinetic officials emphasized the fact that the production rate of 'Freon' is actually governed under present conditions by the rate of empty cylinder returns. A major factor in these "present conditions" is the fact that it is nearly impossible for the producer to obtain new cylinders and

valves, and even if priorities are obtained for such items, delivery is not likely to be made until the crisis is long past.

The word "cylinder" is a misnomer, the Kinetic officials aver. Cylinders are really merely "shipping containers," returnable to the customer. They should not be regarded as a "storage" container or some kind of a service tool, say these officials.

Around 72% of the cylinders are returned—what happens to the rest can be any one of a thousand things. But here are some of the reasons, other than general disinterestedness in the welfare of the industry, why

cylinders are not returned promptly.

There are a few who apparently think they can "speculate" in "Freon," that is, hoard it up and sell it when it becomes scarce. In many cases owners of systems or maintenance men may pump down a system for the winter, and figure that it is better to hold the gas in cylinders than in the liquid receivers. Other cylinders are put to no good use in holding "spare" charges of the refrigerant for systems that are already operating satisfactorily.

In general, Kinetic officials believe that the problem of providing "Freon" for all rests for a good part upon the shoulders of servicemen the nation over because (1) they can speed the return of cylinders; (2) they can prevent leaks in systems, which cause subsequent demands for "Freon," by checking and "tightening up" the system on each call.

Universal Cooler Gives New Jobs to Mattes, Haight

(Concluded from Page 1, Column 4)

Cooler, he had been associated with both the Copeland and Kold-Hold organizations. In addition to his sales-engineering responsibilities, Haight's activities include advertising and sales promotion planning with the Howard Swink advertising agency, advertising counsel for Universal Cooler.

"Al" Mattes joined Universal Cooler in 1936. Previously he had been with Chrysler Corp. A graduate of the University of Pittsburgh in engineering, he joined the company as a member of the service department and has had experiences in all phases of service work.

Pierce, Armstrong Leave Nash-Kelvinator Posts

(Concluded from Page 1, Column 4)

tion. Neither has announced any plans for the future.

In the announcement of Mr. Wibel's appointment Mr. Mason revealed that the company has a new government war contract that will increase the company's volume of business. Mason said he could not reveal details of the new contract at this time.

Wibel was with the Ford company for 31 years, rising from engineering clerk to a director of the company in 1941. From 1939 until his recent resignation, he handled all of the government's sales contracting, involving more than four billions of dollars of Ford war work.



THE RIGHT ROAD TO SUCCESS



We believe, very sincerely, that refrigeration has a tremendous future... for consumers, for dealers and for manufacturers. We also believe that the shortest route to any goal is a straight line... there are no short cuts to success... no detours to destiny.

We believe that the best way to cash in on the future of refrigeration... for our customers, for our dealers and for ourselves... is to CONCENTRATE on refrigeration. You can't build one business by working at another.

So we're sticking to refrigeration for the duration... and after. We're supplying the Allied Forces with every type of refrigerating equipment you ever heard of... and a lot you haven't. We're supplying essential civilian needs in the commercial field... and scores of

new industrial demands which, on the day the war is won, will multiply our business... and yours... many times.

Most important, we're learning more about refrigeration... discovering new markets, developing new products, training new personnel. We're CONCENTRATING on refrigeration because we believe that we can be of most service in what we know best... and because what we know best has ALREADY done much to facilitate Allied successes on every battle front.

What we know best can help you, too, along the road to success. And the road to success in refrigeration is STRAIGHT AHEAD... no short cuts... no detours... no extraneous lines or interests. Lets travel it together.

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P. S. And let's buy more War Bonds... NOW!

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